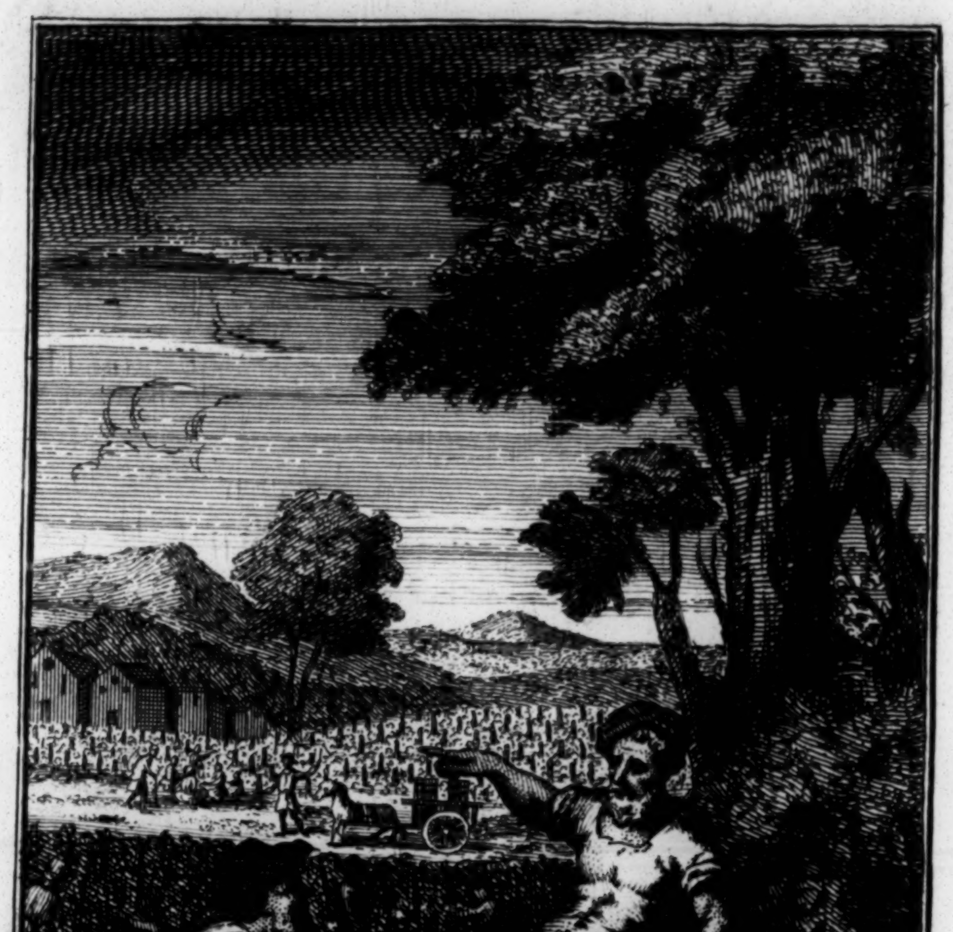

R. Cooper. Invent Fletcher Sculp

THE
VINEYARD:
A
TREATISE

SHEWING

I. The Nature and Method of Planting, Manuring, Cultivating, and Dreſſing of VINES in Foreign Parts.

II. Proper Directions for Drawing, Preſſing, Making, Keeping, Fining, and Curing all Defects in the Wine.

III. An Eaſy and Familiar Method of Planting and Raiſing VINES in *England*, to the greateſt Perfection; illuſtrated with ſeveral uſeful Examples.

IV. New Experiments in Grafting, Budding, or Inoculating; whereby all Sorts of Fruit may be much more improved than at preſent; particularly the PEACH, APRICOT, NECTARINE, PLUMB, *&c.*

V. The beſt Manner of Raiſing ſeveral Sorts of compound Fruit, which have not yet been attempted in *England*.

Being the OBSERVATIONS made
By a GENTLEMAN in his Travels.

The SECOND EDITION.

LONDON:
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TO THE

RIGHT HONOURABLE

His GRACE the

Duke of *CHANDOIS*.

MY LORD,

THE known Candour and Generoſity of your Lordſhip, is ſo Great and Extenſive, that ſhould I endeavour to deſcribe, I ſhould only Eclipſe the ſame, by a weak Recital of Part of thoſe ſhining Qualities which are ſo Inherent and Conſpicuous in your Lordſhip. The extraordinary Encouragment you have been pleas'd to ſhew to thoſe who have any ways contributed to the promoting of any uſeful Art or Science, emboldens me to lay the following Leaves at your Lordſhip's Feet. The Subject whereof I have endeavour'd to handle in ſuch a Manner, as may induce the Readers to try the Practicableneſs thereof; when, I doubt not, it will be found, upon Experience, to anſwer Expectation, and convince the Publick, that ſo Uſeful and Advantageous a Part of Agriculture has been ſo long neglected, to the Reproach of the Natives of our Iſland, and the Impoveriſhment of the Nation in General, who have Annually remitted vaſt Sums of Specie to purchaſe this exhillerating Liquor from Foreigners, which we might as well raiſe at home with a little Induſtry, and by a right Application. It ſeems as if Attempts of this Nature had been neglected, not altogether out of a parſimonious Temper, but for want of a true Knowledge, and ſome due Encouragment. The Farmers contents themſelves with their yearly Crop of Grain; and are indeed neceſſitated ſo to do, by Reaſon many times their Circumſtances will nor permit them to continue ſeveral Years in Expectation of a Return; which they muſt do at their firſt planting a Vine-yard: tho' afterwards the annual Income would make them a very ample Satisfaction, would their Circumſtances permit them to wait the Event. Amongſt the Antients, he who firſt found out the Method of making Wine, was deified for the ſame; and had publick Games and Feſtivals inſtituted, Annually, in Honour of him, and his Invention. And tho' Chriſtianity will inſtruct us better, than to pay an Adoration to our Fellow-Creatures upon any Account whatſoever; yet there is certainly ſome Acknowledgments due to the moſt Deſerving for their Introduction of any Art, Science or Invention, which ſhall become a National Advantage. Would ſome of our Quality (whoſe Circumſtances will better permit them) try the Experiment for a few Years, till a Vine-yard could be brought to Perfection. The Succeſs of ſo generous an Example would cauſe an Emulation amongſt others; and their introducing ſo benificial a Piece of Agriculture, would render them truely Patriots of their Country, and add a Luſtre to their Characters, by ſhewing their Endeavours tend to the Promotion of the Intereſt and Welfare of their Fellow-Subjects, and to remove the Obligations of our being beholden to our Neighbours. Vines themſelves have ſometimes been Strangers as well in *Italy* as in *Britain*; and if we will believe *Pliny* and *Servius*, Cherries were more rare in *Virgil*'s time, in thoſe Parts, than Vines now are with us; for *Lucullus*, not long before *Virgil*, was the firſt who introduc'd them into *Italy*, from the City of *Ceraſus* in *Pontus*; from whence the Tree bears the Name of that Town; tho' Experience now demonſtrates the ſame thrives as naturally here, as in *Italy*, or *Pontus* itſelf.

THE great Improvements that have been lately made, and new Means diſcover'd in raiſing divers Sorts of exotick and foreign Plants in this Country, which till now have been Strangers here, are Inſtances how much the Art of Agriculture is of late improv'd; and the ſtrongeſt Reaſons to induce to farther Experiments, eſpecially in thoſe, which by the Nature and Neighbourhood of the Soil and Climate, where they thrive ſo well, ſeem more adapted to this Country than ſeveral others which have been introduc'd from more diſtant Parts.

I FEAR I have too much treſpaſs'd upon your Grace's Patience, by preſuming to offer this rude Eſſay; but as the only Motive which induc'd me thereunto, was an earneſt Deſire to be ſerviceable to my Country. I the more readily hope for your Grace's Pardon, and an Acceptance of my Endeavours; which emboldens me to ſubſcribe myſelf,

Your G*R* *A*C*E*'*s*

moſt Obedient,

and moſt humble Servant,

S. J.

TO THE

READER.

Courteous READER,

IT has long been a prevailing Opinion, that the raiſing of Vines, to any tolerable Perfection in England, *was altogether Impracticable; and that all Attempts of that Nature would prove Fruitleſs, tho' their Opinions were founded upon no better Reaſon than Want of Experience; it being a common Argument with many People, that ſuch and ſuch Things are altogether Impoſſible; becauſe, had they been Practicable, they would have before been attempted. But the Abſurdity of ſuch Reaſoning, is too trifling to need any Confutation, unleſs the Objectors can ſhew from ſeveral repeated Experiments, that all Attempts of that Tendancy, have prov'd Ineffectual. But with regard to the Subject of the enſuing Diſcourſe, 'tis plainly Demonſtrable, that Vine-yards are eaſily Reconcileable to the Temper and Soil of our Climate. The Objection of the Want of Sun is eaſily confuted, when the Temperateneſs of our Soil is conſider'd in Oppoſition to the Intemperature of* France, *&c. That the Grapes muſt not be too ripe, when gather'd for Wine; That the chief Excellency of the Wines conſiſts in the Preſſing, Drawing, and Managing thereof. That the Wines of ſeveral of the more Northerly Parts of* France *are much finer, and preferable to thoſe of the more Southern Provinces, which is owing to the different Culture of the Vine-yards. That the Wines of* *of the* Moſel *(which lye ſo Northerly, that the Grapes of thoſe Parts never come to ſuch Maturity, as they will here, in the Southern Parts of our Iſland) are yet by the Induſtry of the Inhabitants, render'd Fine, Potable, Pleaſant, and Preferable to thoſe of divers other more Southern Parts; and with this Advantage, that they will keep three, four, or five Times as long as the other, and be the better for keeping; whereas the others, with Difficulty, will keep hardly five or ſix Years, and ſome not ſo long.*

THERE have been ſeveral Inſtances of divers Perſons, who, out of Curioſity, have drawn Wine from Grapes of their own growth, here in England, *which they have found to excel many foreign Wines, in their pleaſant, brisk, and palatable Flavour. It may be objected, theſe Grapes have been the Product of thoſe Vines planted in our Gardens, and nail'd up to the Walls, by which Means they obtain'd a greater Maturity of Ripeneſs.*

BUT in Anſwer to this, let it be conſider'd, that tho' ſuch Vines, nail'd againſt the Walls of Houſes, &c. *may, by the Force and Reflection of the Sun Beams obtain a greater Degree of Heat; yet on the other Hand, it ſhould be remember'd, that there is very ſeldom any Care taken in the Culture of them; for want whereof, they receive more Prejudice, than Advantage from the Reflection of Heat from the Wall.*

BESIDES, thoſe planted againſt Walls are ſuffer'd to run prodigiouſly, that they may appear the more beautiful to the Eye of the beholder. I had myſelf one of theſe Vines ſo planted, of the large Black Grape, which ſpread a Wall upwards of ſixty Foot long, and twenty four Foot high, thereby filling a ſpace of one hundred and ſiixty Square Yards, or fourteen Hundred and forty Square Feet, which ſingle Vine only has produc'd four Buſhels of Grapes in one Seaſon, and in full Perfection. And I doubt not, had the *ſame been annually cultivated and manured in the Manner herein after directed, it would have produced much more.*

IT *is then reaſonable to believe, that theſe Vines planted in this Manner, and ſuffer'd to ſhoot ſo much, were the ſame yearly cultivated, as herein directed, and kept cut down to a more proper height, would not fail of producing a reaſonable Quantity of Grapes fit for the Preſs, altho' planted out in a Vine-yard, without the Advantage of Reflection from Brick Walls,* &c.

BUT to obviate any Objection that may be ſtarted by ſuch, who will not allow the Probability of a reaſonable Argument, nor admit of any thing leſs than plain Demonſtration to ſuſpend their Infidelity. I ſhall mention another Fact, of which I was an Eye-Witneſs. In the Year, laſt before this, when the Coldneſs of the Seaſon prevented the Ripening of the Summer Fruit, and hardly any Sort whatever attained a due Perfection, a Gardiner, within the Limits of the Weekly Bills of Mortality, had a Parcel of young Vines, on which was a conſiderable Quantity of Grapes (theſe Vines were not planted againſt the Walls, but ran along upon the Ground) and finding the Backwardneſs of the Seaſon, judging it impoſſible the Grapes could attain any tolerable Degree of Ripeneſs, ſuffer'd the Vines to ſpend themſelves in ſhooting, and the Fruit to be cover'd with Leaves, that they could ſcarcely receive any Benefit at all from the Influence of the little Sun or Warmth there was in the whole Seaſon) upon Inſpection, he found, as he expected, the Fruit to be Greeniſh, Tart, and not fit for the Tooth at any Rate; he reſolv'd therefore not to gather the ſame; but proffer'd them to any Body that would beſtow the Trouble of picking them.

ACCORDINGLY his Donation was accepted; the Grapes were all gather'd, even to the very greeneſt and hardeſt of all, in order to try an Experiment.

They were preſs'd, and the Liquor put up in Casks, a little of it being firſt warm'd to promote a Fermentation with ſome Brown Sugar; after which, the ſame was ſuffer'd to ſtand ſome few Months in a warm Place to accelerate the Ripening thereof, when being drawn off into Bottles, about two Months afterwards; on taſting the ſame it appear'd to be a good, bright, fine, and ſtrong body'd Wine, perfectly made, and well flavour'd, and was by ſeveral good Judges of Wine (who knew not how the ſame was made) eſteem'd to be an excellent new Muskadine Wine.

ANOTHER Inſtance of the like Nature, happen'd to a Farmer's Wife in Kent, *about twelve Years ſince, who gathering a large Quantity of unripe Grapes; finding them not fit for the Market, got them preſs'd, intending to make Vinegar thereof; and putting the Liquor up, into a Cask, ſet it in her Cellar, which being pretty warm, ſo accelerated the Ripening of the ſame, that about ſeven Months after taping it, in Expectation of finding a tolerable Vinegar therein, ſhe was agreeably ſurpriz'd to find herſelf deceiv'd with a Glaſs of brisk and ſparkling Wine, Pleaſant to the Eye, and Grateful to the Palate.*

THESE two Inſtances may be ſufficient to evince, that the Want of Wine in England *is not owing to the Unkindneſs of our Soil, or the Want of a benign Climate, but to the Inexperience of our Natives, or a Want of Curioſity in ſuch as are capable of convincing themſelves by an eaſy Experiment of the Practicableneſs thereof.*

THE growing of Silk in England *has been long look'd upon as an impracticable and ridiculous Project; nor was the ſame eſteem'd any better in* France. *And the Authors of a Propoſition for that Purpoſe were treated with all the ill Nature immaginable, as ſilly, idle, chymerical Fellows. And the exploded Argument was urg'd againſt them, that if it had been poſſible,*

ſible, it would have been long before put in Practice; and they would have had no Occaſion to fetch their Silks from Perſia, *&c. But how any intended Deſign ſhould ſucceed before an Experiment has been attempted, is what would be very difficult to determine. Who ever would introduce an Attempt of this Nature, would at firſt be ridicul'd as a* Viſionarie, *or Perſon of weak Intellects and Underſtandings, who form'd to themſelves wild and impracticable Notions of ſuch Things as were not poſſible in Nature to be effected. The great Monſieur* Colbert *ſet himſelf earneſtly about the Experiment, reſolving by plain Demonſtration to convince his Countrymen of their Infidelity. It ſucceeded even beyond Expectation; and they who before had been the moſt ready to decry the Propoſition, were willing to attone for their falſe and preſumptious Aſſertions; and acknowledg'd their Error, by immediately encouraging ſo uſeful and profitable a Manufactory. Had a* Colbert *been Miniſter of State to King* James *the Firſt in* England, *'tis as reaſonable to believe, we had at leaſt been as early, and as great Proficients therein, as our Neighbours. Whereas to this Day there are not wanting thoſe who will tell us, that our Climate is too cold to nouriſh the Worms to ſuch a Degree as is neceſſary for their producing Silk to any Perfection.*

BUT if this be an Objection, What will they ſay when they ſee our Neighbours the Hollanders *carry on this profitable Manufactory in a colder Climate than ours? As thoſe, who will give themſelves the Trouble of ſteping to* Utrecht, *may be ſatisfied they do in a ſucceſsful Manner, as well as the planting Tobacco; which from being prohibited by Act of Parliament in* England, *may, in proceſs of Time, likewiſe be thought impoſſible to be rais'd here to any Perfection.*

HOW profitable the planting of Vine-yards would be in England, *I need not mention, that is allow'd on* *all Hands, were the ſame but Practicable; and ſuch who ſhall carefully peruſe the following Sheets, may be convinc'd that the ſame is ſo. The Method practiſed, both in* Champaign *and* Burgundy, *as well as other Parts of* France, *is ſo plainly laid down therein, as will render it plain and eaſy to the meaneſt Capacity, and thoſe not recited barely from the Relation of other Perſons, but taken from the daily Practice and Obſervation of the moſt Skillful and Induſtrious of the Inhabitants. Neither have I barely contented myſelf with a Relation of the Culture, Managment,* &c. *of their Vine-yards,* &c. *but likewiſe examined their ſeveral Reaſons for the ſame, with the Obſervations that they have from time to time made thereon, and endeavour'd to account for them in ſuch a Manner, as may be Satisfactory to the* READER, *and ſhall be ſufficient to Illuſtrate the whole Deſign, ſo as to induce the Curious to try the Experiment. And by perſuing the Directions herein laid down, convince the moſt Diffident, that the Want of Wines of the Growth of our own Country has not been owing to the Coldneſs of our Climate, ſo much as to the Want of due Encouragement, Induſtry, and a proper Method of Planting, Manuring, and Cultivating the ſame.*

THE extraordinary Improvements lately made in Husbandry and Gardening have been ſo great, that it ſeems to have rous'd the Genius of the Nation, and given a peculiar turn to the Studients in Agriculture, &c. *The Encouragement ſeveral late Authors upon thoſe Subjects have receiv'd, ſhews a more general Diſpoſition to favour this Study, than has been known for many Years paſt, and has lately introduc'd ſeveral foreign Plants and Vegetables into our Orchards and Gardens, which have hitherto been unknown to our Climate, but in a few Years may become naturalized to our Soil; amongſt which, the Vines are not only the moſt likely, but would prove one of the moſt Profitable.*

THE

THE

VINE-YARD, *&c.*

BEFORE we enter upon the following Diſcourſe, it may not be improper to obviate ſome Objections that may ariſe, and is commonly made againſt the Planting of Vine-yards in *England*. Which is,

THAT the Climate is too cold, to produce Vines to any Perfection; that the Soil is poor, to that of Foreign Countries; And, that if it had been practicable, the Planting of Vine-yards would have before been attempted.

TO the firſt of theſe Objections, we ſhall Anſwer, That if the Climate is not ſo Southerly as ſome Parts of *France*, *Spain*, and *Italy*, &c. 'tis yet more Southerly, than other Parts of the Continent, where they, notwithſtanding, make very good Wines, and in large Quantities. That the Temperature of our *Engliſh* Climate more than ballances the Objection, in favour of the moſt Southern Parts of *France*; where tho' they have the Advantage of a warmer Sun, they are ſubject to a greater Intemperance of the Weather: The violent and impetuous Storms of Hail, Rain, *&c.* even in the midſt of Summer, attended by ſudden Damps and Chilneſſes never hapening in theſe Parts, frequently blaſts, and deſtroys the Vine-yards, and the faireſt Proſpect of the Husband-man is not ſeldom ruin'd in one Hours time: There not being one Seaſon, but the Vines ſhall in ſome Parts or other be totally deſtroy'd, or at leaſt, very much damag'd by the Changeableneſs of the Weather.

THIS Intemperance of the Seaſons muſt be allow'd by every Body, who have travelled over *France*, &c. and the Conſequence thereof (even in ſuch Vine-yards as have been leaſt ſubjected to the Injury) perceiveable in this, that notwithſtanding their lying in a more Southerly Climate, the Grapes ripen not 'till the latter End of *Auguſt*, or the Beginning of *September*; and if the Seaſon proves any thing backwards, 'tis frequent for the Fruit to hang upon the Vines 'till *October*, or the Beginning of *November*, without being ripe.

NOR is it to be believ'd, that the Fruit, when gathered, is riper or mellower than it is with us in *England*; on the contrary, the Grapes when gather'd for the Preſs, in theſe Parts, muſt not be ſo ripe as when gathered for the Tooth. And thoſe frequently brought to the Markets in *London* are over ripe, therefore not ſo fit for making Wine, as they would, if they had been gather'd a Week, ten Days, or a Fortnight before; for the Reaſons, which, in their proper Place ſhall be given.

'TIS probable, this Obſervation will be decry'd by thoſe Perſons who will not give themſelves

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the Liberty of conſidering, and reſolve to act upon an implicit Faith, diveſting themſelves of Reaſon, in Favour of any prejudicial Notions they are poſſeſs'd off; who having once obtain'd ſome favourite Abſurdities, are ſo bigotted thereunto, that the plaineſt Demonſtration and Reaſon will not be ſufficient to diſpoſeſs them of this Demon of Obſtinancy, and nothing leſs than a Miracle can be expected to root out their Ignorance.

But in order to the Conviction of ſuch Perſons, by Experiments daily in Practice, let them only enquire of the Cyder Makers, whether Apples full ripe, and mellow, are moſt proper for the making of that Liquor, or thoſe not quite ſo ripe.

The Anſwer they will receive to this Queſtion, might be ſufficient to evince, that Grapes may be as well too ripe to make Wine off, as not ripe enough.

The Second Part of the Objection, that the Soil is too Poor, is more abſurd than the other; for 'tis not the Soil, but the Culture of the Ground, which proves ſuch a Friendly Aſſiſtant to the Fruit. The Soil of *France* is much poorer naturally, than that of *England*, and were not their Vine-yards husbanded, till'd, and manur'd every Year, with as much Art, Care, and Induſtry, as our Corn Lands in *England*, they would not be able to make a Piece of good Wine in a Seaſon.

Let it be ask'd of any Perſon who have Vines growing in *England*, how often the Soil was dug, trench'd, cultivated, and manur'd ſince they were firſt planted, you ſhall be anſwered, not at all, that 'tis not uſual to give themſelves any farther

Trouble about them, then only to Prune and Nail them.

But Reaſon will readily teach us, That where the Soil is yearly help'd, by freſh Manuring and Tillage, the exhauſted Juices of the Earth muſt be invigorated and reſtor'd, and the Ground enabled to ſupply a due Nouriſhment to the Roots of the Vines: This, every Gardiner, and nurſery Man can ſatisfy, that barely digging about, and expoſing the Roots of the Trees to the freſh Air, ſtrengthens and enlivens the ſame, and keeps them ſound and vigorous; encreaſes the Circulation of the Juices; and frees them from thoſe Diſtempers they would otherways be ſubject unto.

That the Culture and Management of the Vine-yards is more ſerviceable to the Vines than the Climate only, is eaſily demonſtrable from common Experience; and from the Practice of the Antients, as well as Moderns, in all Parts of the World.

The Sacred Writings are full of Expreſſions, alluding to the Practice of thoſe Times, condemning the Sloathful whoſe Vine-yards lay uncultivated, and whoſe Vines were choak'd with Weeds.

The Practice of all Countries, and all Ages, ſhew the Culture and Tillage to be the moſt eſſential Part in a good Vine-yard.

ÆSOP's Old Man gave a good Leſſon to his Sons, when he left them, as a Legacy, the Money he had buried in his Vine-yard, which their greedy Deſire made them interpret to be ſome Heaps of Gold amaſs'd up, and concealed in the Earth, this made them Induſtrious to dig through the whole Vine-yard, and turn up the ſame in all Places. They were chagreen'd when they could not find one Penny, tho' the enſueing Crop made them an ample Amends for their Labour; and they then perceiv'd their Father's Advice to be very beneficial, and the Legacy he had left them, to be an inexhauſtable Fund of Riches, which they might reap Annually, if they would only give themſelves the trouble of ſearching for it.

THE Preference due to the Wines of ſome Provinces before others, is not owing to the Soil, but the Culture, of which, Cuſtom has introduc'd divers Ways, the Manner of which, in *Champaign*, and *Burgundy*, (thoſe Wines having obtain'd a Preference to moſt others) is, what is here chiefly intended to be treated of; tho' we ſhall occaſionally mention that of other Provinces, in order to ſhew the Difference of Planting, Cultivating, and Manuring a Vine-yard, and the Variety of the Fruit, occaſioned by ſuch different Methods.

AS to the latter part of the Objection, That if the Planting of Vines, and the making of Wine in *England* had been practicable, the ſame would long ſince have been put in Execution: The ſame is ſo weak and abſurd, that were it not too general, it would be rediculous to confute it.

HOWEVER, to Anſwer ſuch as ſhall lay a mighty Streſs upon the Diſcontinuance, or Nonuſure of this Practice, it may not be amiſs to ſay ſomething.

I call it a Diſcontinuance only, for that Vineyards have been formerly Planted, with good Succeſs, in *England*, is beyond Objection; there being divers Places, where the ſame formerly were, which yet, in Remembrance thereof, retain the Name of *Vine-yard* to this Day.

SUCH as are curious to be ſatisfied therein, need only have recourſe to *Dooms Day Book*, in the *Tower*; the grand Record of the Lands in this Kingdom; where they may meet with numberleſs Inſtances, as well as during the Reign of ſeveral ſucceeding Princes to *William* the Firſt, Sir-named the *Conqueror*.

HOW they came to be deſtroy'd, is eaſy to be accounted for, if 'tis conſider'd, that Corn is a more neceſſary Article for the Support of Life, than the Grape. And ſince, in former Times, we were oblig'd to Import vaſt Quantities of Corn from *France*, *Flanders*, and other Parts, the Prices naturally were enhanc'd; To prevent the evil Conſequences of a Scarcity, an Enquiry was begun, whether our *Engliſh* Soil was not as fit to produce Wheat, Barley, and Oats, as it was found productive of Vines; the Experiment anſwer'd beyond Expectation; and the Firſt who fell into the Method of ſowing Corn inſtead of Planting Vine-yards, reap'd ſuch extravagant Profit thereby, as occaſion'd the generality of People to come into the Method of Cultivating Corn Land; whilſt our Neighbours on the other Side, who abounded in all Sorts of Grain, which, by the vaſt Quantities they raiſed, reduc'd the Profits to very inconſiderable, were as fond of Planting Vine-yards, in Hopes of a greater Benefit by the ſame.

PLINY, in his Hiſtory, commends the Wines of *England*, for Goodneſs, and an agreeable Taſte, and Relliſh, peculiar to the Growth of this Country, as not being ſo apt to turn Eager, and Sower, as others were: And likewiſe, commends the Ale and Beer, of *France* and *Spain*, in his Time.

AN Argument our Neighbours were as intent in their Tillage of Corn Land, in thoſe Times, as they are now in the Product of their Vine-yards. Adding to that, That we were then oblig'd to be beholding to our Neighbours, particularly *France*, for vaſt Quantities of all Sorts of Grain yearly: Whereas, We now ſupply thoſe very Countries, as well as *Holland*, with ſeveral Millions of Buſhels of Corn, Grain, *&c.* Annually.

THUS, Intereſt originally, was the Motive to diſcontinue the Cultivating of Vines in *England*, and turning the Vine-yards into arrable Lands; a Practice, not much unlike it, we ſee at this very Time, in *Kent*, where Thouſands of Acres of Arrable, is turn'd into Cherry Gardens, and Hop Grounds; and ſhould the Profits thereof introduce a general Practice through out the Nation, it might in a Century or two of Years, be thought impracticable, to raiſe Wheat, Barley, Rye, Oats, or other Pulſe, or Grain, in theſe Northern Parts.

'TIS not above a Century or two of Years ſince the Planting the Peach, the Nectrine, the Apricot, the Cherry, and the Hop, were treated in as rediculous a Manner, as the Vine-yards at preſent are, in this Country; and all Attempts of that Nature decry'd as impracticable. But the Succeſs has juſtified the Proceedings, to the Advantage of thoſe, who have early enough fall'n into the Practice thereof, as well as the no little Ornament of our Gardens, and Orchards.

THE *French* Author of a little Book, intituled, *The Political Treaſure*, Speaking of the Fruitfulneſs of his own Country, and comparing it with other Provinces, has Vanity enough to repreſent it as the *Eden* of *Europe*; but how juſtly, the Reader may judge, when ſpeaking of this Iſland, he ſays, —

THE Kingdom of England, *'tis true, abounds with Black Cattle*, &c. *and being very thinly Peopled, they find no Want of Bread Corn, which they muſt do, were their Inhabitants as numerous, as in* France; *but as to the Superfluities with which we (meaning* France) *abound, they are quite deſtitute; inſomuch, that the Orange, Lemon, Peach, Apricot*, &c. *can find no Place amongſt them; nay, the poor HOP, cannot with all their Art, and Skill, proſper in that Country, (meaning* England).

HOW true this Aſſertion is, let our Readers determine, who have been amongſt our Hop Grounds in *Kent*; where they will find our *Engliſh* Hops are ſuperior to thoſe of any other Country; not thoſe of *France*, and *Flanders*, from whence they were firſt brought into this Country, can be put in Competition with them; ſo far have our Planters improv'd upon thoſe Countries from whence they came, by their Care, and improv'd Skill in Planting, Growing, Picking, and Curing of them.

WHY an equal Succeſs may not be expected in Planting of Vine-yards here in *England*, would puzzle the Objectors to ſhew; And a little Time, and Experience, convince them that all their Cavils againſt the Poſſibility thereof, are vain and groundleſs.

HAVING thus anſwer'd this Objection, I ſhall now proceed to demonſtrate the Nature, and Manner of Planting Vine-yards, Dreſſing, Cultivating, and Managing of the Vines. Making, preparing, and keeping the Wines, according to the moſt exact Manner of the *Vignerons*, in *Burgundy*, *Champain*, and other Parts of *France*, &c.

THE Soil of *France* is various, according to it's ſeveral Provinces. The moſt Northerly, as *Hainault*, *Artois*, and *Luxemburgh*, are of a heavy, cold Nature, and not ſo kindly a Soil as the *Engliſh*; in theſe Provinces there grows no Vines, for Vine-yards; only Corn, the Soil being more adapted thereunto, and with leſs Care and Trouble; in *Picardy* the Soil is more Sandy, but generally Barren, except towards the Borders of *Normandy*, where is good Arrable Paſture Land, like as is in *Normandy*, and many Parts in *England*: Tho' in *Normandy* there are very few Vine-yards, at this Time, notwithſtanding, *Deip* was once famous for the beſt

Wines in *France*; the ſame Reaſon which has diſcontinued the Planting of them in *England*, has prevail'd in *Normandy*, and their Vine-yards have given Way to Orchards, Gardens and Corn-Fields, which turn to better Advantage to the Inhabitants; that being allow'd to be one of the beſt Provinces in all *France:* The Soil of *Champaign*, is ſomewhat like that of *Normandy*, excepting it is more Chalkey and Sandy in many Places: In *Lothaingia*, and *Alſatia*, the next Provinces, tho' as Northerly as ſome Parts of *England*, there yet grow very good Vine-yards; and the Wines in *Alſace* are not eſteem'd the worſt Wines in *Europe*; on the Contrary, they are allow'd to exceed thoſe of *Paris*, and divers of the more Southerly Parts of *France*; in the Iſle of *France*, about *Paris*, *Beauſſe*, *Burgundy*, *Touraine*, *Poictou*, *Anjoy*, *Bretaine*, and up in the other Provinces of *Xaintoigne*, *Limiſin*, *Query*, *Dauphine*, *Province*, *Languedock*, *Gaſcoigne*, and *Armignack*, the Country is more Mountainous, in many Places not unlike the craggy Hills of *Wales*; in other Parts, a Clayey, Chalkey Soil, like the Rockey Parts of *Kent*; and the Generality of the whole Country is Light, Sandy, Chalky and Mountainous; the Earth in many Places not being above 12 or 18 Inches deep, and in moſt, not above three or four Foot, eſpecially, thoſe Places moſt apply'd to the growing of Vine-yards.

As the Climate is more Southerly, ſo it has the Advantage of a Warmer Sun; but on the other Hand, they are ſubject to ſuch violent, and impetious Showers of Rain, Hail, *&c.* attended with an uncommon Chilneſs, both in *April*, *May*, *June*, *July*, and all the *Summer*, which generally proves deſtructive in one Place or other, to the Vine-yards, not only by deſtroying the Fruit, for that Seaſon, but by Blaſting, or killing the Vines; at leaſt, will ſo much check the Growth, that the Grapes ſhall not be ripe before the latter End of *September*, or *October*; and in ſuch Seaſons, the Fruit would ſooner be fit for the Preſs in *England*. Or, in the beſt of Years, their Vintage would not be ripe above a Fortnight, or three Weeks before ours, were our Vine-yards managed with the ſame Care and Induſtry as theirs.

THE pernicious Conſequence of theſe impetious Showers, I have been a Witneſs off, particularly of one, which deſtroy'd moſt of the Vine-yards, for above ten Miles round about in a few Hours Space; and do not remember, ever to have ſeen ſo impetious and violent a Storm of Rain in *England*; which I found, and was inform'd afterwards, their Seaſons were frequently attended with.

THE Soil coveted by the *French*, for Planting of Vine-yards, is either Stoney, Gravely, Sandey, or Chalkey; and not Meadow, or Arable Land, ſuch being chiefly appropriated to raiſing of Corn, as being more profitable than Vine-yards, to the Owners; as inſtanced before, in the Province of *Normandy*, where are very few Vine-yards, except, about *Bonnier*, where the Soil is more Sandey, Stoney, and Chalkey, like that about *Paris*; and tho' more Northerly, being equal in Latitude, with the Southern Parts of *England*, yet, the *Bonnier* Wines are allow'd to be far preferable to thoſe of *Paris*, or within 45 or 50 Miles more Southerly, of it's Neighbourhood; as they really are, being of a ſtronger, deeper, and brighter Body and Colour, and of a better Taſte and Flavour; which cannot be pretended to be owing to the Difference of Latitude, unleſs, the Northern be moſt preferable; but is occaſion'd by the different Manner of Cultivating, and mannaging their Vineyards, wherein the *Bonnerians* ſo much exceed the *Pariſians*.

In the Planting of a Vine-yard, (if it may be had, as deſired) theſe three Things are neceſſary to obſerv'd.

Firſt, That the Soil be either Chalkey, Sandy, or light and Gravelly, and not a heavy, cold, nor Clayey Soil.

Secondly, That it lye on the South, or the South-weſt Side of a Hill or Aſſent, (the Steepneſs whereof will be no Objection) the better to protect it from the North, and North-eaſt Winds.

Thirdly, That it be upon the Bank, or Banks of Rivers, Southerly to the ſame; or, running by, or, thro' the Vine-yard; for the Reaſons that ſhall hereafter be given.

A Piece of Ground thus laid out, has all the Appearance, that can be deſired, of being made into a rich, and fruitful Vine-yard, if Induſtry, and a due Method be obſerv'd in the Culture thereof. For,

Firſt, As to the Soil, the Vines being of a luxurious Nature, muſt not be pinch'd in the

Ground, but have Room, and Liberty to ſpread and ſhoot therein, which a Light, Gravelly, or Sandy Soil will give them; but a Cold Heavy, Clayey Soil, deads, chils, and binds the Roots, that they cannot ſpread and extend themſelves in the Earth, as they ſhould do; neither has it Juices and Nouriſhment fit and adapted to the ſupplying thereof; adding to this alſo, that a Light, Sandy, Gravelly, or Chalkey Soil, is much hotter than any other.

Secondly, THE Planting on the Side of a Hill, expoſes the Vines more to the Heat of the Sun, keeps of the Intemperate Winds, and throws off the Rain, when the too impetious Showers might be prejudicial, by chilling the Roots of the Vines; the Aſſent can never be an Objection, and I have frequently ſeen Vine-yards planted on the Sides of Hills, almoſt to a Perpendicular.

Thirdly, A Vine-yard planted in this Manner, can never want ſufficient Moiſture, even in the dryeſt Seaſon, for when the Drouth is the moſt exceſſive, the Dews and Vapours which are Nightly exhal'd from the River, deſending again, are diſpers'd by the Air, and carried amongſt the Vines, which ſettling thereon, gives a pleaſant refreſhing Coolneſs, and moiſtens the Earth ſufficiently; without being liable to the pernecious Effects of ſudden impetious and violent Showers and Rain.

THIS is the Method obſerv'd in *Burgundy* and *Champaign*, in planting of Vine-yards, as much as poſſible; and being Hilly, Mountainous Countries, gives the Inhabitants the greater Opportunity of ſo Planting: And 'tis to this Obſervation, that the Inhabitants of thoſe Provinces, allow the Preference given to their Wines to be due; for they, themſelves allow, that 'till this Practice became general amongſt them, which has not been of more than ſixty or ſeventy Years ſtanding, their Wines had not that Repute, and Credit they now have.

They readily admit their Fore-Fathers were content to drudge on in the old beaten Road of Antiquity, and Plant, Cultivate, and Manage their Vine-yards, with the ſame Careleſneſs and Indolence, as the reſt of their Neighbours; untill the Succeſs of the more Diligent and Induſtrious open'd the Eyes of their Underſtanding; and the Advantages of a plentiful Vintage encourag'd them to proceed in their Improvements.

The Remembrance of this Succeſs, has encourag'd them to proceed in other Attempts of Improvement; and they are within this ten Years fall'n into the Manner of making Red Wines after the Method the *Burgundians* do; in which, the Succeſs has likewiſe anſwer'd their Expectation: And they now make yearly in *Champaign*, great Quantities of Red Wine, after the Manner of *Burgundy*, which they Export and ſend to Forreign Countries, and there ſell for *Burgundy*.

In the ſame Manner, the *Burgundians* have likewiſe fall'n upon the Method of making White Wines in *Burgundy*, after the Manner of *Champaign*, and with the like Succeſs of the *Champaigners*.

FROM whence it is obvious, 'tis not from any particular Quality in the Soil of thoſe Countries, different from each other, or in either of them, different from the Soil of the other Provinces of *France*, that gives the particular Quality, Guſt, or Flavour, to either of thoſe Wines, more than to the Wines of any other Provinces, and juſtly renders them preferable thereunto: But to the particular Method, and Induſtry of the Natives, and the Manner obſerved by them, in Cultivating, and Manageing their Vine-yards.

IT may be here proper to obſerve, that the Management, Culture, Tillage, and Manuring of Vine-yards are as different as the ſeveral Provinces: So likewiſe the Times and Seaſons of Tillage, Culture, Pruning, and Cutting of their Vines; as it is in *England*, amongſt our Husband-Men and Farmers; where according to the Richneſs, or Poorneſs of the Soil, one Manures with Soot, another with Aſhes, a third with Chalk, a fourth with Dung, a fifth with Marle, a ſixth with Loom; beſides their Sowing in different Seaſons may accelerate, or retard the Growth of the Corn, and occaſion an Increaſe, or decreaſe in the Quantity and Fullneſs of it, as well as in the Fineneſs, and Goodneſs thereof: This every Farmer and Husband-Man knows, tho' the Difference is not ſo perceiveable in Corn or Grain, as it is in Wine.

THE Reaſon is obvious, becauſe Corn once ſow'd, grows 'till it is fit for the Mill, and needs no other Preparation, than that of Thraſhing, Winnowing, Grinding, and Sifting, to render it fit for Uſe. Whereas beſides the Culture, and Management of the Vines, there is after the Time of the Vintage another Opperation at leaſt, as difficult as the former, to be Perſom'd. That is the Preſſing, Making, Working, and Keeping the Wine 'till it is fit for the Palate; which is an Operation full as nice, and requires the utmoſt Care in the Performance.

Having premiſed this, I ſhall now proceed to ſhew, how a Piece of Ground, contriv'd as is before-mention'd, is to be laid out in the moſt proper Manner, to anſwer the Ends propos'd of making a Compleat Vine-yard.

Having made Choice of a Piece of Ground, in the Manner before deſcrib'd, it muſt firſt be clear'd of all obnoxious Herbs, Weeds, Graſs, &c. Then it muſt be thrown up Trench-wiſe, either North and South, or Eaſt and Weſt; which laſt, is beſt, by Reaſon the Northern Trench protects the next, and that again, the other, and in like Manner, thro' the whole Vine-yard, from any pernicious Blaſts and Winds.

It muſt be trench'd in the ſame Manner our Gard'ners and Nurſery-Men do their Ground, upon the breaking of it up; only with this Difference, that the Trenches muſt be both deeper and broader; they ought to be at leaſt four Foot a-ſunder, and three Foot in Height, tho' more or leſs is ſometimes allow'd, according as the Nature of the Soil requires; If it be too moiſt a Soil, it will then be proper to Plant the Vines on the Tops of the Ridges; if the contrary, in the Bottom of the Furrows; 'Tis beſt to Plant them, two Rows on the Top of each Ridge, or two Rows in the Bottom of each Furrow, at the Diſtance of about twelve Inches aſunder, which will be ſufficient.

If the Ground be moderately moiſt, or near to Water or Rivers, ſo that the Dews or Vapours can deſcend upon the Vines, it will be beſt to Plant them on the Tops of the Ridges. The Tops whereof being about twenty Inches, or two Foot over, and the Vines planted in two Rowes thereon, at the Diſtance before-ſaid, there will be ſufficient Room to walk along the Furrows between the Ridges, without prejudicing the Vines, which would otherwiſe be of fatal Conſequence to a good Vine-yard, as ſhall be hereafter demonſtrated.

I Have, indeed, ſeen ſeveral Vine-yards in other Parts of *France*, where the Vines have been Planted promiſcuouſly, at about the Diſtance of twelve or eighteen Inches aſunder, for the ſake of having a greater Number of Vines upon the ſame Quantity of Ground, and that without the Caution of Trenching them; by which it has been impoſſible to Walk thro' ſuch a Vine-yard without tearing and breaking the Vines; beſides which Ill-conveniency, the Ground being over-ſtock'd, has not yielded a ſufficient Supply of proper Nouriſhment to ſupport them, and the Fruit thereon has been very ſmall, and more flat and inſipid in Taſte, than that of others, regularly planted, as I have before directed.

This Practice is not allow'd of, neither by the *Champaigners*, nor *Burgundians*, who will not admit that ſuch a Vine-yard can ever produce good Wines; and they decry the ſame, as being both a careleſs and imprudent Management.

But before the Ground is thrown into Trenches fit for Planting, it ſhould be all turn'd with a Spade, and intermixt with ſome light and proper Manure, to mellow the ſame, before it be Trench'd.

The Manure the *Champaigners* make Uſe of on this Occaſion, and what is moſt proper for this Uſe, is Hog's Dung, Cow's Dung, and Sheep's Dung mix'd together; which being often turn'd, and expos'd to the Air, and then intermix'd with ſome light Mould or Earth, and turn'd often with the Spade, is intermix'd with the Earth before it is thrown up into Trenches. For this light Manure, not only mellows, but lightens the Soil, and renders it more fit for the Vines; if the Ground be too heavy or cold, then to mix ſome Chalk amongſt it, may not be improper.

As to Horſe Dung, That is by no Means proper, nor do the *Champaigners* ever make Uſe thereof, but upon the moſt urgent Neceſſity, and then very ſparingly, not above one fifth Part of that, to four Fifths of Cow's Dung, Sheep's Dung, or Hog's Dung, which muſt be well mixt together, and expoſed to the Sun and Air, and muſt likewiſe be mixt with an equal Quantity of light Earth or Mould.

This Sort of Manure, they prepare long before they make Uſe of it, and let it lye expos'd to the Air, at leaſt 12 Months before they will apply it to Uſe; during which Time, they frequently turn it, as well to draw off the Heat, as the ill Smell and Vapours ariſing there from.

For this they have found by repeated Experiments, that the Dung of Horſes before the Strength is Evaporated proves deſtructive to the Vine-yards, frequently ſcalding the Roots, and deſtroying the ſame.

Likewise the Smell and Odour ariſing there from, even when the Heat is Diſſipated, affects the Vines, and gives a Taſte to the Grape, which proves prejudicial to the Wine, by giving an ill Flavour thereunto, which is not to be drawn off by Art, but will be ſtill Predominant.

Having made Choice of a piece of Ground, as before directed, either inclining to a light Gravelly, Sandy, or Chalkey Soil, naturally dry, and not moiſt, heavy nor Clayey; and improv'd and lightn'd the Soil, by ſome proper Manure, as herein diſcrib'd, after having well mixt the ſame in the Ground by Digging; then throwing your Vine-yard up into Trenches; You may proceed to the Planting your Vines, either in the Furrows, or on the Ridges, as you find to be moſt proper, according to the Nature of your Soil.

Your Vine-yard being in this Order, you are then to proceed to the Planting the ſame; having made Choiſe of a ſufficient Stock of young Vines, and of the Sort you intend to Plant.

Every Acre of Ground to be planted in the Manner as here directed, will require about ſix Thouſand ſix Hundred Vines, if Set at the Diſtance propos'd.

The Vines I would adviſe, as moſt proper for this Climate, and as being the Hardieſt, are the ſmall black Muskadine, which are the ſame planted by the *Champaigners* and *Burgundians*, in their Vine-yards.

Some Perſons who have large Vine-yards, raiſe theſe Vines themſelves, but the generality of People, buy them of the Nurſery-Men, who raiſe them for Sale, as our Nurſery-Men in *England* do their Plants and Trees; And theſe Vines they can purchaſe at about a Piſtole a Thouſand, of the People whom they call Pippineers.

As to the white Grape, it is not ſo fit for a Vine-yard, as this before deſcrib'd, for the Wine from thence made, will not be ſo Brisk and fine as that drawn from the black Grapes.

The proper Time for Planting a Vine-yard, is about *October*, tho' there have been ſome not planted 'till *March*, but that is not ſo fit; thoſe planted in *October* are much better.

Those Perſons who have not the Opportunity of procuring a ſufficient Quantity of young Vines from the Nurſery-Men, may ſoon raiſe a ſufficient Stock from the Grape Stones, which I eſteem better than thoſe rais'd from Layers, or brought out of the Nurſery Grounds: For,

Firſt, THOSE Vines produc'd from the Grape Stones, are much ſtronger, will bear better, and are naturaliz'd to the Soil.

Secondly, THEY will Flouriſh much longer, and will be better able to bear any Intemperance of the Weather than thoſe brought out of any Foreign Soil.

Thirdly, YOU may, in the Grape Seaſon, make Choiſe of ſuch Grapes by the Taſte, as you think proper for your Vine-yard, and laying by the Stones 'till the proper Seaſon, then Sow them; without any Danger of being deceiv'd by the Nurſery-Men, who will frequently ſell you White for Black, or one Sort for another, which you cannot diſcover preſently; and thereby run the Hazard of ſpoiling your Vine-yard, by a Mixture of bad Fruit; or at leaſt, looſing ſeveral Years Growth, if you remove the ſame, upon a Diſcovery.

THUS having got your Ground prepar'd, and your Vines in Readineſs for Planting, you next proceed to Set the ſame, in the following Method; you muſt begin either on the Ridges, or in the Furrows, by making a Hole with a Howe, or Pick-Axe, or ſmall Shovel on purpoſe, about a Foot deep, into which Plant your Vine; when you fill the Hole up again with Mould, throw in a Handful or two, of ſuch prepar'd Manure, as is before-mention'd, along with it.

AND

AND *here Note*, That thoſe Vines which are planted with Roots and Fibres of their natural Production, will thrive much better than others planted from Cuttings, or Layers.

THUS proceed to Plant your Vines thro'out your Vine-yard, at the Diſtance of one Foot each, two and two Rows of like Diſtance on each Ridge, or in each Furrow: The Planting on the Ridges, I would adviſe, as moſt proper, if the Soil will admit thereof.

HAVING thus finiſh'd the Planting of your Vine-yard, you may expect to ſee the Product thereof the third Year, which will be increaſing the fourth, and fifth, and on to the ſixth, ſeventh, and eighth Year; when it will be in full Perfection, and continue Bearing with Vigour, for ſixty Years, or more; provided the ſame be yearly Till'd, Manur'd, and Cultivated according to the Directions herein given.

IF, when your Vines begin to Bear, you perceive any white Grapes, or of different Sorts, from what you intend, it will be beſt to remove them, and to Plant others in the Room thereof; which you may be ſupply'd with, from the Cuttings, and Suckers which muſt be taken from the Others, to prevent their checking the Growth of the Fruit.

THERE are, indeed, two Sorts of Vines Planted, or rather, two Sorts of Vine-yards Cultivated in *Champaign*; They both proceeding from the ſame ſmall Black Muskadine Grape; the one call'd, the *Low Vines*; the other, the

High Vines: The *Low Vines* they ſuffer not to run above three Foot, very rarely four Foot high.

These *Low Vines* will Bear betwixt two and three Pieces of Wine, but very rarely ſo much as four Pieces of Wine *per* Acre, each Peice containing fifty Gallons *Engliſh* Meaſure.

The *High Vines*, are ſo call'd, becauſe they are ſuffer'd to run about ſeven or eight Foot high; and will, indeed, Bear about ſeven or eight Pieces *per* Acre; but this Wine is not ſo good and fine, nor has that delicious Flavour the other Sort hath; For which Reaſon the *Champaigners*, moſt generally Cultivate the *Low Vines*, and find it moſt profitable ſo to do.

About the Month of *February*, next after the Vines have been Planted, the *Champaigners* go thro' their Vine-yards with Baskets of their Manure, before-mention'd, and ſpread a Shovel full or two thereof, about the Root of each Plant; letting it lye ſo expos'd to the Sun, Wind, and Weather, for the Space of about eight or ten Days; during which Time, the ill Scent and Odour ariſing from the Dung will be diſpers'd and evaporated; at the End of which Time, they again go thro' the Vine-yard, and making a little Hole, with a ſmall Pick, Howe, or Shovel, behind the Root of each Plant, they bury the Manure before ſpread about the Root, therein; which invigorates and ſtrengthens the Roots of the Plants.

There are ſome Perſons, however, will let the ſaid Manure lye ſeveral Weeks expos'd about the Roots of the Vines, before they will bury the ſame; but Experience ſhews this laſt Practice not to be ſo good as the former, for with too long lying, in that Manner, the Subſtance as well as the Odour, will be diſſipated; and it will be of little uſe, towards Nouriſhing them, when the Strength is Evaporated by being too long expos'd to the Heat of the Sun, the Air, Wind, and Rain.

THE *Champaigners* are always very careful of giving their Vines, their proper Tillage, Manuring, Dreſſing, and Pruning, which they call the four ordinary Works of the Seaſons, tho' theſe are not in all Places obſerv'd equally alike.

Firſt, ABOUT the Month of *November*, they Dig through the Vine-yard, turning the Earth at leaſt ten or twelve Inches, or what our Gardiners and Nurſery-Men term a Spit deep.

SOME will not dig their Vine-yards until *February*, but they may ſenſibly perceive the Diſadvantage thereof; for by diging the ſame in *November*, the Pores of the Earth are open'd to admit the Particles of Rain, Snow, &c. according to the Seaſon, which greatly refreſhes the Roots of the Vines, and the Earth is thereby invigorated by the Spirituous Dews and Vapours, and the proper Salts, which uniting themſelves with the Particles of the Soil, Feed and Nouriſh the Vines, with proper Juices. Whereas, if the Soil be not turn'd until *February*, the Sun increaſing in its Strength, extracts and draws out the little remaining Salts and Juices which were not before exhauſted in ſupplying the Vines with due Nouriſhment.

Secondly, THE annual Manuring them in the Method before deſcrib'd; for, where that is omitted, the Conſequences will viſibly appear by the Decreaſe of the Quantity of the Fruit.

Thirdly, THE Pruning of the Vines.

HERE it is to be obſerv'd, That the Time of Pruning, is not equally obſerv'd, by all alike; Some Perſons will Prune their Vines in *January*, others in *February*, and ſome again not untill *March*: But by due Obſervation, it is found, Thoſe who Prune their Vine-yards in *February*, chooſe the moſt proper Time for the doing thereof. For,

THOSE who for the ſake of having early Fruit, will Prune their Vines in *January*, run the Hazard of deſtroying their Vine-yard; for, frequent Experience ſhews, That the Vines, which are Prun'd then, will (if the Seaſon proves Favourable) produce Early Fruit, but the Conſequence is, That they ſhall ſenſibly languiſh for ſeveral Years, before they can Recover themſelves; and if the Weather ſhould prove any thing hard, or ſevere, they will certainly die, if not that Year, in a ſhort Time afterwards: For, Their being Cut too ſoon, expoſes them to the Extremity of the Froſt, and Cold, which is very prejudicial to them.

ON the other Hand, thoſe, who either to ſhun the Hazard of looſing their Vines by too

Early Cutting them; or, That thro' Cuſtom, or Negligence, omit the Pruning them until *March*, run into an Error equally as fatal. For,

Firſt, The Sap aſſending, or rather, the Juices being then in full Circulation occaſion'd by the invigorating Nouriſhment ſupply'd from the Roots, occaſions the Vines to Branch and ſhoot out, and throw themſelves more into Wood: Whereas, if they are Prun'd in Time, and the Luxurant Branches, Shoots, and Suckers taken off, thoſe Juices which are ſpent in ſuch Nouriſhment, would be converted into proper Aliment, for ſupporting and encreaſing the Quantity, as well as Quality of the Fruit; for, where ever any Trees, &c. are ſuffer'd to Branch too much, the Fruit may always be obſerv'd to be more flat and inſipid, as well as leſs in Proportion, both to Size and Quantity. Again,

Secondly, The Vines being too lately Cut when the Juices are in a full Circulation, it has been frequently found by Experience, That ſuch have bled themſelves to Death.

The moſt proper Time for Cutting the Vines is, in the latter End of *February*, becauſe then the Severity of the Froſt are over, and the approaching Seaſon occaſions the Increaſe of the Circulation of the Juices, which is ſtrong enough to ſupport the Vines from any Intemperance of the Weather; for, after the latter End of *February*, the Severity of the Colds and Froſts are prety well over; at leaſt they are but of ſhort Intervals, and Continuance not ſufficient to Damage the Vines ſo, as to endanger the

Killing thereof, on the one Hand; neither on the other, Is the Seaſon ſo far Advanc'd, as that the Pruning of them, can any ways occaſion their Bleeding to Death; nor have they too far ſpent themſelves, by Branching out too much into Wood.

CONTINUAL Experience ſhews, That thoſe Vines Prun'd about the Middle, or latter End of *February*, are freed from all the Inconveniencies before-mention'd, and rarely fail of producing a very good Stock of Fruit, and Shoot more ſtrongly and vigorouſly than others.

THE Sticking and Triming the Vines, is what is call'd, the Fourth ordinary Work, The Manner of which, is thus,

ABOUT the latter End of *March*, you muſt provide a Number of Sticks, for Sticking your Vines. Theſe Sticks in *Champaign* and *Burgundy*, and generally, in moſt Parts of *France*, are of Quarter'd Oak, (tho' in ſome Places, they uſe Cheſnut inſtead thereof) about an Inch ſquare, and about four or five Foot long; one of which, is allow'd to each Vine, which they Stick, as our Gardiners, in many Places, do their *French* Beans.

THESE Sticks are generally of Oak, for thoſe they find to be the moſt durable, for they will laſt above 20 Years, when the Points decay, as they will in about ſix or ſeven Years, they will ſharpen them again, by cutting off about two or three Inches thereof; for as they do not ſuffer their Vines to run above three, or at the moſt four Foot high, they will bear three Cuttings, and be yet long enough for the Vineyard.

HAVING with theſe Sticks, ſtuck all your Vines quite thro' the Vine-yard, at the ſame Time, they Prune away all the young Shoots which appear from the Roots, and alſo crop the Tops of the Vines, not leaving them above two Foot in Height, nor more than two Shoots, if ſtrong ones; or but one, if it be otherways, from each Root.

THIS Croping the Tops off of the Vines, prevents their Shooting ſo high, which otherways they would; and likewiſe, their ſpending themſelves in ſuperfluous Shoots and Branches, to the Prejudice of the Fruit.

HAVING thus done, they tye up the Vines to the Sticks, with ſmall Ruſhes, or Baſts for that Purpoſe; to prevent their lying upon the Ground, or being intangl'd one with the other.

THIS Cuſtom of Toping the Vines they obſerve, not only in *March*, when they Stick the ſame; but alſo, again in *May*, they Nip off all the Tops, and young Shoots, which are ſprung up ſince the Sticking of them in *March*; again likewiſe, in *June*, at which Time, they will not only Crop off the Tops, but alſo Nip off the Leaves, where they hang ſo thick, as to Cover the Grapes from the Sun; which, by being thus laid open, and expos'd thereto, will the ſooner Ripen, and be fit to gather.

THEY do not always obſerve the ſame Times for Toping the Vines, and picking off the Leaves, by Reaſon they Shoot faſter in ſome Years, than in others; in ſome Years once or twice will be ſufficient; in others, they may be Crop'd, four, five, or ſix Times, according as they Shoot; for their Vines are after *April* kept ſo bare of Leaves, that one of theſe *Low Vines* ſhall not have above ten or twelve Leaves upon it: And unleſs the ſame be Crop'd and kept low, and pretty free from Leaves, they will ſpend themſelves too much, to the prejudice of the Fruit.

IN many Parts of *France*, they ſave the young tender Tops of the Vines, and eat them as Salleting, which, they ſay, is a very delicious one; and as ſuch, is frequently Sold in the Markets.

THEY are always careful to keep their Vine-yards clear of all Sorts of Noxious Herbs and Weeds; for the ſame do very much injure the Vines, by with-drawing that Nouriſhment for their own Support, which ſhould be appropriated to the others.

THIS is a conſtant Maxim amongſt the *Vignerons* of *Champaign* and *Burgundy*, That they will never enter into their Vine-yards, in *April*, *May*, &c. or whilſt there is any Dew upon the Vines in the Morning, but defer working therein 'till the ſame is exhaled by the Heat of the Sun. And the Reaſon they give, is this, That ſhould they touch any of the Leaves, or young Fruit whilſt the Dew is upon it, where the ſame has been touch'd or handl'd, it impreſſes

preſſes the Dew thereon by being ſqueez'd, which ſtricks deeper therein, the Heat of the Sun draws the ſame ſo violently, that it burns, or rather, Scalds thoſe Places that have been touch'd, to the Prejudice of the Vines. And by frequent Experience alſo, they find, That if they Enter into their Vine-yards whilſt there is either Hail, or a Hoary Froſt upon the Ground, all thoſe Vines which are in the leaſt then touch'd, or handled die.

AN Obſervation not much unlike this, may be taken Notice of in *Peaches*, *Apricots*, &c. where, if the ſame is handled upon the Tree, tho' ever ſo gently, if there be any of the Morning Dew thereon, thoſe *Peaches*, *Apricots*, &c. ſhall appear to be ſpotted and ſtain'd.

ANOTHER Inſtance, ſtronger than the laſt mention'd we find in *Melons*, *Cowcumbers*, &c. whereon, if any Water be ſprinkled in the Midſt of a Sunny Day; or if the Vines thereof are only handled, whilſt they are Wet, the Heat of the Sun attracts the ſame ſo violently, that the Vines will frequently be burnt off or deſtroy'd, to the Deſtruction of the Fruit thereon.

'TIS to a Want of this Obſervation, great Quantities of fine Fruit, and many promiſing Plants, are loſt and deſtroy'd, and the Owners know not how to account for the ſame.

IF you reſolve to have your Wine bright, fine, ſtrong, mellow, and of a good Flavour, you muſt not ſuffer your Vines to run above two Foot, or at moſt three Foot in Height, from whence, mannag'd in this Manner, you may expect about one Hundred and Seventy Gallons, from every Acre of Vines.

The *High Vines* are to be Cultivated in the like Manner as the other, ſave with this Difference, That they muſt be ſtuck with ſmall Poles, both longer and ſtronger than the others, in the Manner our *Kentiſh* People Stick their Hops; thoſe Poles muſt be about eight or nine Foot long, as well to ſupport the Vines, as to repel the Force of the Winds, which would otherways, be ſo ſtrong as to tear them Down with its Force, and thereby break and deſtroy the Vines.

These Vines muſt be ty'd like the others, to the Poles, and not above one, at moſt two Branches to be allow'd to each Root, all the others muſt be Prun'd away.

The Culture, Dreſſing, Managing, and Manuring one of theſe *High Vine-yards* is much the ſame as the *Low* ones; Reaſon alone, will direct where any Difference is to be obſerv'd.

These *High Vines* will Bear near three Times the Quantity of Grapes, as the *Low* ones; for one Acre of theſe will produce, three Hundred and Fifty, or Sixty Gallons of Wine; but this Difference is to be obſerv'd, That this Wine will not be ſo fine, agreeable, ſtrong, nor mellow, as that made from the *Low Vines.*

Here it is to be obſerv'd, That theſe different Sorts of Vine-yards, proceed from one and the ſame Fruit, *viz.* the little ſmall black *Muskadine Grape*, and not from different Sorts of Vines, originally Planted therein: So that to turn a Low Vine-yard into a High one, is no other, than to ſuffer the Vines to run about ſix or ſeven Foot high before you Top them. Contrary-wiſe, if you would turn a High Vine-yard into a Low one, You muſt cut your Vines quite down to the Ground about *November*, and let them not ſhoot above two, or at moſt three Foot high.

THERE are other People, who ſuffer their Vines to run four or five Feet in Height, but theſe find their Wines not altogether ſo hard, as that made from the *High Vines*, neither is it ſo fine, and mellow as what is produc'd by the *Low* ones.

THIS is a certain Rule, the higher the Vines run, the greater the Quantity of Fruit, and likewiſe Wine; but the ſame is weaker in its Kind, and not ſo pleaſant to the Taſte, as that which is produc'd from the *Low Vines*.

HERE I ſhall mention an Obſervation I have made in ſeveral Places amongſt the Vine-yards, which is, That in the Intervals betwixt the Vines, they will frequently Plant *French Beans* or *Kidney Beans*, that is, if the Vines are planted on the Ridges, they will then Sow a Row or two of *French Beans* in the Furrows: Or, If the Vines are in the Trenches, then a Row or two of *Beans* ſhall be planted on the Ridges. But obſerve, That theſe muſt be only *Dwarf Beans*, for, ſhould you Sow either the *Common French high Beans*, or *Peaſe*, the ſame would be prejudicial to your Vineyard, as well by intangling themſelves amongſt the Vines, as by Shooting up ſo high, as to obſtruct the Warmth of the Sun, which theſe Dwarfs, not growing more than ten or twelve Inches in Height, never can do.

OTHERS, again, will ſowe Salleting, as *Lettice*, *Spinage*, *Chervill*, *Creſſes*, &c. in the Intervals of the Trenches, and Furrows. Theſe Rules muſt be obſerv'd, in what ever is Sown, or Planted there.

Firſt, THAT they be ſuch Things, as take not deep Root in the Earth.

Secondly, THEY muſt not be too great Drawers.

Thirdly, THEY muſt be ſuch as are of different Nature from the Vines, that they do not draw the Juices from the Earth, which ſhould nouriſh your Vine-yard. And,

Laſtly, SUCH Herbs, Plants, *&c.* as will be ſoon off of the Ground before your Vintage comes on.

BUT to return again to the Vines, I ſhall likewiſe obſerve, That the Wines of *Province*, and *Languedock*, are not ſo good as thoſe of *Burgundy*, and *Champaign*; neither will they keep ſo long.

THERE are three Reaſons concur, which give the Preference to the laſt-mention'd Wines, *viz.*

Firſt, THE Vines generally Planted in *Province* and *Languedock*, is from a larger and whiter Fruit than thoſe of *Burgundy* and *Champaign.*

Secondly, THAT the Quantity of Wine may be the larger, the ſuffer their Grapes to be too ripe, before they gather them; which, indeed, inlarges the Quantity, but deſtroys the Quality. And,

Thirdly, THAT the Soile is not ſo fit for Vines, for it is a fat, moiſt, mellow Land, and would be much more agreeable for Corn, or Paſture Land, than for Vine-yards.

ADDING to theſe Objections, That they ſuffer their Vines to ſtand too long in the Vine-yards; for, when a Vine is paſt its Vigour, which it will be in about fifty Years, (if in a good proper and agreeable Soile) it Annually languiſhes and decays.

AND as daily Experience ſhews, That Vines, tho' rais'd from the ſame Fruit, and with the ſame Care, are various in their Succeſs, tho' all Planted together, and growing in the ſame Vine-yard; which may be owing to various Accidents; It would be the moſt proper Way, to pluck up ſuch as grow faint and languiſh, as ſoon as you perceive them to decay, and plant others in the Room of them; ſo ſhall you always have your Vine-yard in its full Vigour and perfection: And thoſe who keep large Vine-yards, ought to allot a ſmall Spot of Ground, as a Nurſery for keeping of young Plants, to ſupply the Room of ſuch as decay, from

Time to Time; for, otherways the Vines may languiſh for ſeveral Years, and a Vine-yard be twenty, thirty, or more Years after it begins to decay, before it is quite gone.

HAVING thus Planted your Vine-yard, and furniſh'd it with proper Plants; carefully Manur'd your Soile, and Prun'd your Vines, (ſuppoſing the ſame to be Planted with all young Stocks) they will the ſecond Year after they are Planted, (thoſe which are moſt kindly, eſpecially) Bear in ſome ſmall Proportion; the third Year, generally, all will Bear Fruit; the fourth, fifth, and ſixth Years, they will increaſe in Quantity; the ſeventh, and following Years, they will be in their full Perfection; and ſo continue 'till about the fiftieth Year, about which Time they will Decreaſe in their Annual Bearing, which, tho' but ſmall at firſt, will yet be viſible to a Curious Obſerver. Adding to this alſo, That they will be more ſubject to Blaſts, and Accidents of the Weather, than formerly they were; and the Fruit will be backwarder, as to the Seaſon: So that thoſe Vines, which, whilſt young and vigorous, produced their Fruit in *September*, will not, when ſo Old, yield the ſame, to the like Degree of Ripeneſs, untill *October*.

HAVING carefully obſerv'd the Directions hitherto given, againſt the Seaſon for gathering the Grapes; you muſt provide a ſufficient Number of Casks, for filling with the Liquor; and your Preſſes ſhould alſo be provided in Readineſs, which ſhould be erected as near to your Vine-yard as poſſible, if you intend your Wine to be white, and fine in Imitation of that of *Champaign*.

The Nature of theſe Preſſes, we ſhall hereafter deſcribe, together with the Reaſons why the ſame ſhould be erected in, or near to the Vineyard; and ſhow, That a great Part of the Excellency of their Wines is owing thereunto.

When you perceive you Grapes to be fit for gathering, which you may judge of, either by the Eye, or by the Taſte, or both; you muſt obſerve the Methods following, according to the different Sorts of Wine you would make.

Firſt, Your Grapes muſt not be too Green when they are gather'd, if they are, the following Inconveniency will attend the ſame.

1ſt. The Wine will be hard and backwards.

2dly. It will require much more Labour to Preſs the ſame, and the Quantity will be much leſs than otherways.

3dly. The Colour of the Wine will not be ſo fine.

Secondly, They muſt not be over Ripe, for, That will, on the other Hand, be as detrimental. For,

1ſt. The Wine will be Sickiſh and Ropey.

2dly. It will not keep ſo long.

3dly. The Colour will be faint and dull.

THE true Time of gathering the Grapes is, when they are juſt coming fit for the Tooth, not riper than we gather them in *England* ; nay, even not ſo Ripe as ſome are, that come into our Markets for Sale.

HOWEVER, As of two Errors, the leaſt is to be prefer'd ; It will be moſt adviſable, to gather them rather of the Greeneſt, than when they are too Ripe ; the Defect of their Greeneſs, may, in Part, with a little Labour, be remedy'd ; but that of over Ripeneſs, is ſuch, there is no correcting the ſame, all Attempts of that Nature being ineffectual. The Forwarding and accelerating of ſuch Wines as are made from Ripe Fruit, ſhall be hereafter taught in a proper place.

ABOUT the Middle, or latter End of *September*, the Grapes will be ſufficiently Ripe ; As the Seaſon of the Years are forwarder or backwarder, they will be fit to gather, a little ſooner, or a little later ; but when you believe it a fit Seaſon, you muſt next chooſe a proper Morning for gathering the ſame.

I SHALL here purſue the Obſervations I have diligently made, and repeat the Cuſtom us'd in gathering the Grapes, in *Champaign* and *Burgundy*, ſince thoſe Wines are allow'd to be preferable to all other Wines in *France*.

'TIS poſſible, it may be here objected, That 'tis needleſs to deſcribe the Manner of gathering them ; That the Caſe will be all one, whether they are gather'd in the Morning, or in the Afternoon ; Whether in a fair, or a foul Day : But let theſe

Objectors take this for an Anſwer, That 'tis not ſo trifleing as they ſuppoſe; and that Part of the Goodneſs of the Liquor conſiſt in the gathering the Fruit.

This may ſeem a Paradox, to ſome Perſons, but Demonſtration will render the ſame obvious to the meaneſt Capacity, which I ſhall here endeavour to render plain to the Reader, ſo as not to admit of any Objection.

The *Champaigners* and *Burgundians* themſelves, condemn the Generality of their Neighbours, for their indolent Method and Management, who content themſelves, without endeavouring at any Improvement; but plod on in the old accuſtom'd Way of their Anceſtors, without attempting to benefit themſelves by the Experience of the more ſearching Naturaliſts.

When they judge their Grapes Ripe enough to gather, they wait the Opportunity of a fine, cool, dewy, foggy, miſly Morning, without any Sun, if poſſible; when they diligently prepare themſelves for their Vintage, in the following Manner.

They begin about five o' Clock in the Morning, or as ſoon as they perceive it to be Light, if it be a cool, fine Morning, and either the deſcending Dews, Foggs, or ſmall miſly Rain ſettling upon the Vines, the Grapes will be cover'd with an Azure colour'd Dew, the *Vignerons* or Laberours are ſet to Work, to gather the ſame as faſt as poſſible; and before the Sun ſhall be ſo High, or the Heat ſo Great as to attract the Dew from off the Grapes; they continue thus gathering, until they perceive the fine Dew to be almoſt exhal'd by the Heat from the Grapes; when they leave off Gathering for that Day, unleſs it happens to be a gentle, rainey Day, which if it does, They will continue at Work all that Day, or at leaſt, ſo long as the Rain holds; but if it Rains violently, or but indifferent faſt, they then ceaſe their Labour.

THE Reaſons for this are many. For,

Firſt, A SMALL, miſly Rain, Fogg, or Dew, hanging upon the Grapes, ſoftens and melliorates the Skins.

Secondly, It keeps them Fine and Cool, and thereby prevents the Sun from heating the ſame.

Thirdly, IF the Dew were attracted by the Heat of the Sun from the Grapes, the ſame would thereby become more inwardly heated, and the Liquor more Ruddy.

Fourthly, NOT only the Dew from off the Grapes, but the more Spiritous Part of the Liquor it ſelf would be evaporated and loſt.

Fifthly, THE Skins would be more tough, and hard, and the Grapes with more Difficulty Preſs'd.

FOR the miſly Rain, Fogg, or Dew, being upon the Grapes when the ſame are gather'd, not only preſerves the fine, ſubtile, ſpiritous Part thereof, but of it ſelf, mellows and increaſes the Quantity of the Liquor; and likewiſe adds to the Clearneſs thereof. For this Moiſture upon the Grapes, ſo ſoftens the outward Husk or Skin, that they almoſt all turn into Liquor: And this Wine is by Experience found to be much whiter, thiner and better, than if the Grapes were gather'd in the Sun, or at any other Time without ſuch Moiſture upon them.

For, when the Sun has heated the Grapes, the Agitation of the Particles occaſion'd thereby, is the Reaſon of the Wine being more red; and the Quantity is decreas'd by Tranſpiration; or, becauſe the Skin's being hardned by the Heat of the Sun, the Grapes are preſs'd with much more Difficulty.

'Tis alſo certain, and worthy the choiſeſt Obſervation, That the ſame Quantity of Grapes, which if gather'd in a Sunny Morning, without Rain, or Fogs, or Dews upon them, would produce ſix Hundred Gallons of Wine; the ſame, had they been gather'd in a Dewy Morning only, would have produc'd ſeven Hundred, or ſeven Hundred and Fifty Gallons of Wine; or had they been gather'd in a Foggy Morning only, would not have produc'd leſs than eight Hundred, or eight Hundred and Fifty Gallons of Wine: But if the ſame had been gather'd in a Foggy Morning, during a ſmall, miſly, Shower of Rain, the like Quantity of Grapes, would not have fail'd of producing, at leaſt, nine Hundred Gallons of Wine.

If it be objected, that the Foggs, Dews, or Rains, may indeed augment the Liquor, as it comes from the Preſs, but that the Quantity of pure Wine drawn from the Grape, is no more than equal to what it would have been had the ſame been gather'd in a Sunny Day: The following Obſervation, may confute the Objection.

THAT an equal Quantity of Grapes gather'd in a dry Day, and preſs'd againſt an equal Quantity of the ſame, gather'd on a Dewy, Rainy, or Foggy Morning, the firſt Cakes ſhall be larger in Proporion, as well as conſiderably heavier, than the latter, tho' preſs'd with an equal Care and Strength, which evinces the Obſervation to be juſt, that the Dew ſo ſupples and Melliorates the outward Husks or Skins of the Grapes, that they almoſt all turn into Wine.

EXPERIENCE has confirm'd theſe Obſervations, not only to be juſt, but the Practice thereof to be equally profitable; and the *Champaigners* are very punctual in the due Performance of the ſame.

THEY are ſo careful to gather their Grapes before the Dews or Fogs are exhal'd, that they will employ one Hundred *Vignerons*, Labourers, or Gatherers of Grapes, in a Vine-yard of Twenty Acres, who will run over the ſame in about three Hours Time, and in that Space, ſhall gather all that is fit for the cutting.

I MUST not here omit one Common Obſervation of the *Champaigners*, which is likewiſe applicable to other Parts of *France*, and *Europe*, and is a ſtrong Confutation of the miſtaken Notions of ſuch as aſſert the Sun to be chiefly neceſſary in the Production of this deſirable Fruit. Which is,

THAT the Vines of *Verreny*, *Sillery*, *Saint Thierry*, *Mailly*, and *Rilley*, &c. are more hard and rough, and much higher Colour'd, than thoſe of *Auvilley*, *Ay*, *Eperney*, *Cumiers*, *Pierry*, *Fluery*, *Damery*, *Vantevill*, &c. That thoſe of theſe laſt

Places are much finer and mellower: But 'tis to be obſerv'd, they will not keep altogether ſo long as thoſe of the firſt mention'd Places: However, the more delicious Flavour of thoſe laſt mention'd Wines, very juſtly gains them the Preference.

THEY are not, indeed, curious enough to examine into the Reaſons thereof, but content themſelves with making a juſt Obſervation, that it's always ſo, whether the Seaſon be agreeable or not.

I SHALL endeavour to Account for this, in a Natural Manner, without pretending the Difference, of the Soile, Manure, or Culture, to be the Reaſon; for an Argument fetch'd from thence, would be Erronious, the Soile, Culture and Management, being the ſame; and all theſe Places in the Neighbourhood of each other, *viz.* in the Province of *Champaign.*

LET it be conſider'd, That *Verreny*, *Sillery*, *Saint Thierry*, *Mailly*, and *Rilly*, &c. lye all upon the Mountanious Parts of the Country, where the Vine-yards are more expos'd to the Sun, than thoſe planted in the Valleys, or on the Banks of the Rivers; that they have conſequently leſs Moiſture than the others: I mean, That the Fogs, Dews, and Vapours are not ſo great upon the Mountains, as in the Valleys; conſequently the Grapes muſt be more heated, and the Particles agitated by the Force of the Sun Beams, to which they are ſo much expos'd; which naturally cauſes an Exhalation of the more ſpiritous Part of the Moiſture from the Grape, and leaves the Remainder more rough and hard.

On the other Hand, *Auvilley*, *Ay*, *Epernie*, *Cumiers*, *Piery*, *Fluery*, *Damerry*, *Vantevill*, &c. Lye all upon the Banks of the Rivers, where they have an equal Benefit from the Rains with thoſe upon the Mountains; and as the Fogs and Dews are greater in theſe Places, than the other, and the Vapours continually ariſing from the Rivers, with more of the cool refreſhing Air, occaſion'd by their low Situation, and their Neighbourhood to the Waters; adding to this likewiſe, That they are not ſo Subject, to the fiery Exhalations drawn from the Earth, as thoſe upon the Mountains are: The Grapes muſt conſequently have a more refreſhing Coolneſs, by which the fine, ſubtle, Spiritous Part is continu'd therein; and not evaporated as in thoſe Vine-yards upon the Mountains, which have not ſo great Aſſiſtance of the Waters, to protect them from the Fury of the Sun Beams. Adding to this likewiſe, That conſtant Experience ſhews, That Wines produc'd from theſe laſt-mention'd Vine-yards, are not ſo high Colour'd as the others; which Difference alſo, is occaſion'd by the friendly Moiſture, they receive from their Situation.

To confirm my Opinion herein, let it likewiſe be remember'd, That if the Seaſon proves hotter, and dryer than Common, both the Wines of the Rivers, and thoſe of the Mountains will be more hard and rougher than otherways, and higher colour'd; likewiſe, more or leſs, in Proportion to the Extremity of the Seaſon. On the other Hand, Should the Seaſon prove cooler than ordinary, as well the Wines of the Mountains, as the Rivers, will be Softer, Cooler, and Paler in Colour, than they commonly are.

ANOTHER Obſervation worthy our Remark, is, That the Vines of *Auvilley*, *Ay*, *Eperney*, *Cumiers*, *Pierry*, *Fluery*, *Damery*, *Vantevill*, &c. and other Places in the Valleys, and on the Rivers, ſhall produce their Fruit, fit for the Preſs, about eighteen or twenty Days before thoſe of *Verreney*, *Sillery*, *Saint Thierry*, *Mailley*, and *Rilley*, &c. and other Mountainous Parts, altho' they are more expos'd to the Sun than the others.

AS I have hitherto endeavour'd, to Account for the Obſervations I have laid down, by reaſonable Arguments; I ſhall attempt the like here, by ſhewing this Backwardneſs of the Mountain Wines proceeds from this, That the Grapes not being ſo ſoften'd, and mellow'd by the Fogs, and Dews, as the others are, and the moſt Spiritous Part exhal'd by the Force of the Sun Beams, the Skin grows Harder and Tougher, ſo as to reſiſt its kinder Influence. Whereas, The other Grapes which are continually cheriſh'd and refreſh'd, by the gentle Dews, and Vapours always falling upon them, have their Skins much Softer and Thiner, than the others: Of this any Perſon may eaſily convince themſelves, by comparing the Skins of Grapes gather'd in the midſt of a Summers Day, with the Skins of thoſe gather'd after a ſmall, miſly Rain, Dew, or Fog; where the Difference is ſo viſible, as well as the Taſte ſo diſtinguiſhable, that it cannot admit of a Denial.

THIS Obſervation only, might be ſufficient to convince any reaſonable Perſon, of the Practicableneſs of Planting Vine-yards, with Succeſs, here in *England*; ſeeing 'tis demonſtrable the Advantage our Neighbours make thereby, is more owing to their Induſtry, and Knowledge therein, than to any Thing ſo extraordinary in their Soil, or Climate; The Difference of Latitude, betwixt *Champaign*, *Burgundy*, and other Parts of *France*, and ſome of the Southern Parts of *England*, being too trifling to admit of any Objection that is not overballanc'd in our Favour, by the Temperateneſs of our Climate; ſince from what has been before ſaid, a Vine-yard requires a due Moiſture, as well as a warm Sun. Which Obſervation expoſes the Weakneſs of thoſe Arguments that tend to prove the Impoſſibility of raiſing Vine-yards in *England*, ſince too much Heat, without being properly quallify'd by Rains, Dews, or Fogs, is a Hindrance to the Vine-yards, equal to the Want of the Sun it ſelf, a temperate Climate being the moſt proper, and always producing the beſt and pleaſanteſt Wines.

FROM hence we may Account for the Reaſon why the Wines of *Spain*, *Portugal*, *Port o Port*, &c. are ſo much harder, groſſer, *&c.* than thoſe of *Burgundy*, *Champaign*, &c.

IT is allow'd that the *Spaniſh* and *Port* Wines, *&c.* are of a ſtronger Body, becauſe the *Champaigners*, &c. conſult the Pleaſantneſs of their Liquor, and how to make it moſt agreeable to the Palate; that the Fruit may be ſo gather'd, as to render it ſtronger, is demonſtrable from what has been before inſiſted upon; for if the ſame be gather'd in the midſt of a ſunny Day, the Wine will be much ſtronger; but then it will looſe that agreeable Flavour it would otherwiſe have, and be much leſs in Quantity likewiſe.

THE Want of ſuch kindly refreſhing Fogs and Dews, as are before mention'd, occaſions the *Port* Wines to be of a groſſer, heavier Body; nor can they otherwiſe remedy the ſame, than by ſuffering the Grapes to hang upon the Vines till they be full Ripe; in which Caſe, indeed, the Wine will be the pleaſanter and mellower than otherwiſe; but then they are attended with this Ill-conveniency, that they will not keep long.

HOWEVER 'tis in the Power of any Perſon, obſerving the Method before laid down, for gathering their Grapes, to make their Wine Hard or Mellow, Strong or Weak, Red or White, or to obſerve a Mean therein, as they pleaſe.

IF you would make what is in *Burgundy* and *Champaign*, call'd an excellent Cuve, or Tub of Wine, you muſt obſerve punctually the following Directions.

IT is neceſſary here to premiſe, that the natural Wine of *Champaign*; and what they vallue themſelves moſt upon, is, what they call *Oiel de Perdix*, or of the Colour of the Patridge's Eye, which conſiſt of a Mixture of the firſt, ſecond, and third Running together; otherwiſe they diſtinguiſh them by the common Names of White Wines, tho' drawn from the Black Grape before mention'd, and are called White Wines, becauſe drawn White from the Grapes.

I HAVE before obſerv'd, they have lately fall'n into the Method of making Red Wine, in the ſame Manner the *Burgundians* do, and which they ſell for *Burgundy*; but as that is but a late Practice, I do not call that, the natural Wine of the Province, becauſe by *Champaign* we are to underſtand the Wine moſt commonly made there.

AGAIN the natural Wine of *Burgundy* is Red, notwithſtanding they do frequently make a White Wine, in immitation of the *Champaigners*, which they will ſometimes ſell for *Champaign*, and at other times for white *Burgundy*.

ALL theſe Wines are made from the ſame ſmall Black Muskadine Grape, notwithſtanding the various Colours of the Liquor; I ſhall proceed to ſhew the different Methods of each Province; and begin firſt with *Champaign*.

TO make an excellent Tub of fine mellow Wine, you muſt have your Preſs in the midſt of your Vine-yard, if it be a large one, or at leaſt very near to it.

HAVING pitch'd upon a proper Morning, as before deſcrib'd, for gathering your Grapes, and got a ſufficient Number of Labourers (or *Vignerons*, as they are there called) in readineſs, each provided with a Basket and Knife, the one to hold the Bunches, the other to cut them off, let them begin their Work; and in going thro' your Vine-yard, they muſt not gather all at once; let them only gather thoſe Bunches which appear to be ripeſt, and moſt open, paſſing over all ſuch as are Green, or cloſe Bunches; for the cloſe Bunches never thoroughly ripen.

Let them carefully avoid all dry, rotten, or burſten Grapes, whether occaſion'd by the Over-ripeneſs, or by any other Accident; and let the Stalk of every Bunch be cut as cloſe to the Grapes, as conveniently may be; let them lay their Bunches gently in their Baskets without bruiſing or preſſing each other, and be as expeditious as poſſible in the gathering thereof; for on that depends the Colour of their Wine.

Those Grapes which are too cloſe, or not ripe enough, let them be left on, for a ſecond, third, fourth, or fifth Cuting.

Here obſerve; Thoſe Wines made from the firſt Gathering are the moſt valluable, and bear a Proportion according to the following Rates.

When the Wine of the firſt Cuting is worth Six Hundred Livres the Cuve, that of the ſecond Cuting will not ſell for more than four Hundred and Fifty Livres, nor that of the third Cuting for above two Hundred and Fifty Livers, and the others in Proportion.

I Have before mention'd, that one Hundred Labourers thus employ'd, will in four Hours ſpace run over a Vine-yard of thirty Acres; and may in that time gather ſufficient for a Preſſing of five or ſix Hundred Gallons of Wine,

Let the Labourers, as they gather the Grapes, carry them immediately to the Preſs, without either bruiſing or heating the Grapes. For this obſerve as a certain Maxim, that the ſooner the Grapes are preſs'd after gathering, the finer and whiter the Wine will be; and not only ſo, but likewiſe more mellow, will have a more true, grateful, and vinous Flavour, and will alſo be more in Quantity.

It may poſſibly be ask'd, why the Wine ſhould be the worſe for the Grapes being heated, or bruis'd in the Carriage, or for not being preſs'd immediately, as ſoon as gather'd? To which let this Anſwer ſuffice, that the heating and bruiſing the Grapes lets out the moſt ſpirituous Parts of the Liquor, and puts the whole into a Ferment, which occaſions a Change in the Colour; that the Skins, by lying, grow tougher, and give the Wine a more acid Taſt and Flavour; and as the ſpirituous Part evaporates, the remainder muſt conſequently be leſs in Quantity than otherwiſe.

HAVING thus brought your Grapes to the Preſs, lay them therein gently; then letting the Preſs fall down thereon, the Weight of the Preſs alone will force out the Liquor plentifully.

THIS Liquor which thus runs from the Grapes firſt, without other Violence than the Weight of the Preſs is by them call'd, *le Vin de Gout*, or, *le Vin de la Abaiſſement*, and is of a moſt fine, thin, and lively Body, of a moſt pleaſant Flavour and Reliſh, has all Things in it to render it exquiſitely Pleaſant both to Eye and the Palate; appears very ſparkling in the Glaſs, but has not Body enough to keep a long time without Mixture.

There are ſome Perſons however will keep ſmall Quantities thereof for Preſents, &c. than which there cannot be a more Pleaſant or agreeable one.

When the Liquor ceaſes to run from the Preſs, they raiſe the ſame immediately, and with Steel Shovels, purpoſely made for theſe Uſes, they pare off the Sides of the Grape Cake, and throwing up again, together with all the looſe Grapes which have been ſcatter'd, or cruſh'd over by the Force of the Preſs, let the Preſs down again thereon; and then ſcrew the ſame down with great Force and Strength, which occaſions the Liquor to run more plentifully than before.

This Wine, thus drawn at the ſecond Preſſing, is call'd, The Wine of the *Firſt Cutting*, becauſe 'tis the firſt time the Grapes have been thrown up by the Shovel.

This Wine will be alſo of a very fine Colour and Flavour, little inferiour to the other; but in this, indeed, preferable, in that it has a ſtronger Body, and will keep a conſiderable time longer than the firſt.

When they perceive the Liquor begins to ceaſe running, they unſcrew the Preſs again; and cutting the Cake all to Pieces with their Steel Shovels before mention'd, throw the ſame into the Preſs, and letting it down again thereon, they preſs it as violently as they can.

The Wine drawn at this Preſſing, is called, the Wine of the ſecoud Cutting.

AND this Wine ſhall be much more in Quantity than either of the two former Cuttings. The Reaſon why the Quantity drawn from the Grapes at this Cutting is larger than before, proceeds from this Reaſon, that the Grapes having been bruis'd by the two former Preſſings, are not now ſo apt to fly from under the Preſs as at firſt they were, when the ſame is let down upon them.

THIS Wine of the ſecond Cutting is an extraordinary good, fine, and clear Wine, and of the Colour the *French* call *Oeil de Perdrix*, and will, if it be kept by itſelf without any Mixture, be a neat, fine, ſound Wine, of an extraordinary good Flavour, and fit for Exportation; it is of a ſound, ſtrong Body, fit for keeping, and will continue good four or five Years.

WHEN you ſee the Liquor ceaſes to run pretty plentifully, unſcrew your Preſs, and with the Steel Shovels cut the Grape Cake all to Pieces; then throw up the ſame again as before, and preſs it over-again, you will find it will yet yield a conſiderable Quantity of Liquor.

THIS is called Wine of the third Cutting, and is of a ſtrong Body, but higher Colour'd than any of the former.

THE Quantity will not now be ſo great as before, but the Wine will be very potable, and will keep four or five Years.

THIS done, take out your Cake, cut it in Pieces again as before, for another Preſſing, which is called Wine of the fourth Cutting, and will be of a ruddy Colour, indifferent ſtrong of Body, but harder, yet will keep for ſome time; and if it has a little Age, will be a tollerable Wine to drink without any Mixture.

YOU may proceed in this Manner to cut and preſs your Cakes as long as you find they will yield any Moiſture; after which remove your Cakes from your Preſs, that you may be at Liberty to make uſe thereof upon Occaſion.

YOU will find upon tryal, you may preſs your Cakes about five or ſix Times over, obſerving before each Preſſing to cut them all to Pieces that the Liquor may the freer run therefrom.

WHEN theſe Cakes have been ſo often preſs'd, that they will yield no more Liquor, they will be almoſt as hard as a Stone, the Force of the Preſs is ſo great.

THE Wine *de Gout*, or *Vin de la Abaiſſement*, will be of the moſt ſpirituous, fine, and exquiſite Body, Taſt, and Flavour; ſuch as are willing to preſerve any Part thereof, may, in Bottles, keep the ſame for ſome little time, but it is too fine and ſubtle to be kept for any Continuance, neither will it bear Exportation.

THE Wine of the ſecond Running, or Wine of the firſt Cutting will be more in Quantity than the other; and is alſo exquiſitely fine both as to Taſt and Colour. The Body will be ſtronger, and if preſerv'd by itſelf, will keep longer than the firſt; for whereas that will not keep over the firſt Year, this will keep till the ſecond. The Quantity drawn at this Preſſing will be conſiderable more than at the firſt.

The Wine of the third Preſſing, called the Wine of the ſecond Cutting, will be of the ſtrongeſt Body, is of a deeper Colour of an extraordinary fine Flavour, and will keep, if rightly managed, until the fourth, fifth, or ſixth Year.

The Quantity now drawn at this Preſſing, will be more than at either the firſt or ſecond, as is before mention'd; and this Wine, without any Mixture is frequently tranſported to foreign Countries.

The Wine of the fourth Preſſing called the Wine of the third Cutting, will not be ſo much in Quantity as the laſt, it will be of a deeper Colour, and a rougher Taſt and Flavour, yet is nevertheleſs a good ſtrong body'd Wine, and agreeable enough to the Taſt.

The Wine of the fifth Preſſing, called the Wine of the fourth Cutting, will be ſtill leſs in Quantity, and deeper Colour'd, than the laſt mention'd, and the Taſt rougher; it is however tollerably good, and will keep about three Years, if without any Mixture.

The Wine of the ſixth Preſſing, called the Wine of the fifth Cutting, is leaſt in Quantity of any of the others; the Colour almoſt Red, and the Taſt will be more rough and hard than any of the before mention'd; this however makes what they call *le Vin de Burru*, and what in *Champaign* they allow for their Families or Servants, as we do Beer in *England*.

IF they draw a ſixth Running, they mix it with the laſt mention'd Wine, and together make *Le vin de Burru* for common Uſe in their Families.

ALL theſe Wines will at their Running from the Preſs appear to be a little Colour'd; but the Colour decreaſes with ſtanding, and the fine Wines will grow perfectly White.

ALTHO' theſe Wines are White (I mean thoſe of the firſt and ſecond Preſſing) they are in *Champaign* called Grey Wines, by reaſon of their being drawn ftom the Black Grape.

WHEN you have finiſhed the preſſing your Grapes, and have drawn off all the Wines into ſeveral Tubs or Veſſels, you may mix them up in the following Manner.

IF you mix the Wine *de Gout* with that of the firſt, ſecond, third, fourth, and fifth Cutting, they will be a little Colour'd, which makes what is called in *Champaign Oeil de Perdrix*, or the *Partridges-Eye*, and is ſuch as we have here in *England*, for the beſt *Champaign*.

BUT that which is generally tranſported from *France* is the Wines of the third, fourth, and fifth Cutting mix'd together, which is an extraordinary good and pleaſant Wine, eſpecially when about a Year old.

SOMETIMES they will mix that of the ſecond, third, and fourth Cutting together; and this is what is reckon'd Extraordinary.

THEY never export the Wine *de Gout*, or *le Vin de l'Abaiſſement* alone; nor that with the firſt and ſecond Cutting only; for theſe Wines would be too Rich and Fine.

ANOTHER Reaſon for not exporting the *Vin l'Abaiſſement* alone, or with the firſt, or firſt and ſecond Cutting only, is, that the Body is ſo thin and ſpirituous, that it would not bear Tranſportation, but by the violent Motion of the Sea would be thrown into ſuch a Fermentation, that it would ſoon turn Eagre and Sower.

IF the Wine of the fourth Cutting ſhould be high Colour'd, as in ſome Years it will, if the Weather has prov'd Hot and Dry; then they mix it with that of the fifth, ſixth, and ſeventh Cutting; and this is called the Wine of the Preſs, which will be of a good ſound Body, but higher Colour'd, and more rough than ordinary.

THE beſt way to put up the Wines, and what is moſt frequently obſerv'd, is to put up the Wine *l'Abaiſſement* with that of the firſt and ſecond Cutting; and this is called fine Wine.

Then that of the third, fourth, and fifth Cutting together, which is called the *Oeil de Perdrix*, and ſometimes Wine of the Cuttings.

And that of the ſixth and ſeventh Cutting together, which is called *le Vin de Burru*, or Wine of the Preſs.

They moſt commonly mix their Wines, as before, and afterwards, againſt they expoſe them to Sale, put up one fourth Part of fine Wines, two fourth Parts of the Wine of the Cuttings, and one Fourth Part of the Wine of the Preſs.

Observe, that the quicker and more expeditious they are in preſſing their Grapes, the whiter the Wine will be.

Having thus deſcrib'd the Manner of making the White Wines of *Champaign*, it will be proper here to take notice, how the Red Wines are made in *Burgundy*, that the Reader may be convinc'd, the Colour is only acquired by the Method of managing the ſame, and not by any different Qualities in the Grapes.

When the *Burgundians* find their Grapes to be ripe and fit for gathering, they take the Opportunity of a ſmall rainy, miſty, foggy, or dewey Morning, for the Reaſons before given, by the *Champaigners*, for increaſing the Quantity of the Liquor, and meliorating the Grapes.

They are curious in gathering the ripeſt, and beſt of the Grapes, rejecting thoſe that are rotten, not upon account of altering the Colour, but to prevent giving any ill Flavour, Scent, or Taſt to the Wine.

These they gather into Baskets, as before directed; and tho' there is not that Neceſſity (in gathering them for Red Wine) to be ſo Expeditious, yet they will not gather them when the Sun has exhaled the Dews, Fogs, or Moiſtures off of the Grapes; becauſe by melliorating the Skins of the Grapes, the Wine is of a ſofter Taſt, and a more agreeable Reliſh and Flavour.

Having thus gather'd their Grapes, they throw them all into large Tubs, or Cuves, and beat them with Sticks, which maſh or bruiſe them all in Pieces, or putting little Children into the Tubs to tread the Grapes to Pieces, who by running about in theſe large Tubs, as the Grapes are throwing in, tread them under their Feet, which more effectually bruiſes and heats them, than 'tis poſſible to do by beating with Sticks or Battoons.

Having thus trod the Grapes till the Tub is full, and the Liquor floating above them, they leave off that Exerciſe, and let the Grapes lye in the Liquor for the Space of about forty eight Hours, during which time they will frequently ſtir up the ſame, as well the Grapes as the Liquor, which puts the whole into a firment, and the violent Agitation encreaſes the Colour, by attracting the more acid and aſtringent Particles from the Skins and Stones of the Grapes.

When they have thus continued in their Liquor about two Days, in which time the ſame will be of a full bright and deep Red Colour, they then proceed to preſs them in the Manner, as before deſcrib'd, by preſſing them, cutting, and preſſing again, as long as any Liquor will flow from the ſame.

That Liquor which may be taken from the Grapes, after treading, without preſſing, is the beſt and moſt Spirituous; that which is drawn from the Grapes by preſſing is of different Degrees in Goodneſs according to the Cuttings.

The Liquor drawn of from the Tubs of trodden Grapes may be mix'd with the Wine of the firſt, ſecond, third, and fourth Cuttings. Sometimes they will mix that Liquor with that of the fifth and ſixth Cuttings, preſerving that of the firſt, ſecond, third, and fourth Preſſing by itſelf; however in this, as the Mixture is Diſcretionary, ſo every Perſon muſt conſult their Intereſt or Inclination, as to what Strength and Goodneſs they would have their Wines of, and may mix them accordingly.

Here obſerve, that the Wine drawn from the Tub, without preſſing, mix'd with that of the fifth, ſixth, and ſeventh Cutting will be equal in Goodneſs, with that of the firſt, ſecond, third, and fourth Preſſing together.

As to the Method of making White Wine in *Burgundy*, and Red Wine in *Champaign*, they are much the ſame, with what has been before deſcrib'd.

diſcrib'd, therefore needleſs to repeat the ſame over again.

But to return to the Deſcription of the *Champaigners* Method of making their Wine, I ſhould before have obſerv'd, that thoſe Perſons who have large Vine-yards generally purchaſe Preſſes of their own, becauſe they having them at Hand to erect at, or near to their Vine-yards, is of ſo great Advantage in the Fineneſs of their Wines.

However there are publick Preſſes, or Mills for preſſing of Grapes, for the Conveniency of thoſe who have but ſmall Vine-yards, and cannot bear the Expence of purchaſing Mills or Preſſes themſelves.

These Perſons lying under the Diſadvantage of being neceſſiated to ſend their Grapes to the publick Mills to be preſs'd, to prevent the Illconveniency of having their Grapes heated in the Carriage, they provide Barrels, with falſe Bottoms, or Lids; and when they gather their Grapes, they lay them gently into the Barrel till the Bottom is cover'd all over, then they lay in a falſe Lid, which is ſo fix'd to the Sides of the Barrel as not to touch the Grapes; then upon that they lay again a freſh Parcel of Grapes, and ſo till the Barrels are full; yet notwithſtanding all their Precaution, they cannot prevent their heating; for as they are frequently oblig'd to carry them two or three Leagues to the Mills to be preſs'd, they muſt ſend them in Carts, the ſhaking whereof heats and bruiſes the ſame, ſo as to occaſion the Liquor drawn therefrom to be higher Coloured than it otherwiſe would.

'Tis the Illconveniency of this, has introduc'd the Cuſtom of immitating the Red *Burgundy* Wines in *Champaign*, which has been practis'd for about nine or ten Years paſt, with very good Succeſs, to the great Advantage of the Inhabitants, which they do in the Manner before deſcrib'd.

When you perceive you have Grapes ripe enough for a ſecond Cutting, you are to chuſe a proper Morning, as has been before directed, and proceed as formerly in the gathering and preſſing the ſame. However obſerve, that the Wine drawn from the firſt Gathering will be much preferable to this of the ſecond.

Again, about the latter End of *October*, or in the Beginning of *November* is the laſt Gathering; at which time they chuſe a fine, cool, foggy Morning, when there is a little Froſt upon the Vines, at which time they gather all the Grapes that are remaining upon the Vines, whether the ſame be White, Black, or Greeniſh; as there will even then be ſome Grapes which are not fully ripe.

They are not ſo careful in the gathering of theſe Grapes, as in the former Cuttings, not minding ſo much the Colour of the Wine; therefore if there be any rotten or decay'd Grapes, they do not ſtand to pick them out, but throw them all into the Preſs promiſcuouſly.

FROM theſe, by preſſing and cutting, as before directed, they draw a Wine, called *un vin Bourru*. This Wine, after it has had a reaſonable time for its Fermentation, will be a tollerable good, ſtrong body'd Wine, and clear enough.

WHEN your Liquor is taken from the Preſs, you muſt have your Casks in readineſs to put up the ſame. Your White Wines ſhould be put into new Casks to prevent their colouring the Wines; but the Red Wines (if you make any) and the Wine *Bourru* may be put into old Casks, without any prejudice, provided they are Sweet and Clean.

SOME little time before they put up their Wines, the *Burgundians* and *Champaigners* will rinſe out all their Casks with fair Water, wherein they have infus'd ſome Peach Leaves, or Flowers, which, they ſay, gives an agreeable and delicious Flavour to thoſe Wines, which ſhall be afterwards put therein.

AS theſe Wines drawn from the laſt Gathering of the Grapes cannot be ſo perfect as the others, occaſion'd by the Grapes not being ripe enough when they were gather'd; they have recourſe to the following Method to accelerate the ripening thereof, which is what I have before mentioned, and promiſed to ſpeak to in its proper Place.

ALSO, if the Wine be of a ſmall Body, they have recourſe to the ſame Method; which is only when the Wines have been put in the

Casks about three Weeks, to roll them up and down therein for ſometime, five or ſix times a Day for four or five Days ſucceſſively; then two or three times a Day for three or four Days afterwards; once a Day for about four Days; then continue rolling them once in a Day for about a Week; then once in three Days, or once in four or five Days: And let the rolling, in this Manner (if your Grapes were gather'd very Green) be continued, in the whole, about the ſpace of five or ſix Weeks.

But this rolling of the Casks muſt be Diſcretionary; for if the Grapes were tollerably ripe when they were gather'd, very little rolling will ſerve them, once in four or five Days for the ſpace of a Month or ſix Weeks will be ſufficient.

This rolling of the Liquor in the Casks will highten the Fermentation, by the Agitation of its Parts; and the violent Motion thereof heats the Wine, which cauſes it to purify and purge itſelf; and accellerates the Ripening thereof, much better than any other Manner can do.

Besides, the mixing and ſhaking it together with its Lees, both ſweetens and ſtrengthens the ſame; and renders it much more fit and pleaſant to the Palate.

The Cakes, after they have been preſs'd as dry as poſſible, in *Champaign* they ſell them to the Country People, who, by Diſtilation, draw therefrom a Brandy, called Brandy of *Aixne*; which is a tollerable good Brandy, but not ſo good as the *Coniac*, becauſe the Cakes have been too much preſs'd.

When your Wines have been put in the Casks ſome few Days, they will ferment, which you may ſoon perceive, if you are curious enough to take notice thereof.

The fineſt Wine, called *le Vin de Gout*, will ferment immediately, if you have (as you ſhould be careful to do) kept ſome of it by itſelf, without mixing it with any other.

You muſt, when you perceive it to ferment, take ſome of the Froth which works therefrom, in the Nature of Yeaſt, and put a little of it into each of the Casks of the other Wines, which do not ferment, eſpecially into thoſe called the Wines of the Preſs, or thoſe of the fifth, ſixth Cutting, *&c.* which will haſten the Fermentation thereof.

The fineſt Wines will ferment firſt, next thoſe of the Cuttings; and laſtly thoſe of the Preſs, or thoſe of the laſt Cuttings.

These Wines will continue their Fermentation for the ſpace of about ten or twelve Days, or ſometime longer, according to the Sorts of the Wine, and Seaſons of the Year.

They have a Cuſtom in *Alſace*, and upon the *Moſell*, that if their Grapes are gather'd too Green, as upon the *Moſell*, they never come to ſo full a Maturity, that when they have preſs'd their Grapes, and put their Liquor into proper Casks, and plac'd them in their Cellers, or Storehouſes,

houſes, in order to forward the Wines, to take off the Eagerneſs, and accelerate their Ripening. They have Iron Stoves in their Cellars where they continually keep a Fire burning, which by rarifying and heating, the Air ripens and melliorates the Wines, and renders them much more palatable and agreeable than they would otherwiſe be.

WHILST theſe Wines are upon the ferment, the Bung of each Cask muſt be left open, or only cover'd with a thin Cloth to prevent any Dirt falling into the ſame, which muſt be laid hollow, ſo that the Froth occaſion'd by the Fermentation may have Liberty to work off.

WHEN you perceive the Fermentation to be pretty well over, which you will ſee by the Froth ceaſing to riſe ſo faſt as before, you may then cloſe down your Bung, firſt filling up your Veſſel with Liquor within about two Inches of the Top; then you muſt open the Vent-hole, and leave it ſo, to carry off any thing that may be thrown up by the Fermentations not being quite ceaſed.

THIS Cuſtom of filling up your Casks to within two Inches of the Vent-hole once in every two Days, for the ſpace of about ten Days, muſt be obſerv'd; for the Fermentation will continue a conſiderable time, altho' in a leſſer Degree; and if your Casks are not kept ſo full as that any Foulneſs thrown up by the Fermentation, may be carry'd off at the Vent-hole, it will fall back again into the Wine, and occaſion it to be foul and muddy.

HAVING thus continued to fill up your Casks to two Inches, for about ten or twelve Days, you muſt afterwards fill them to within one Inch of the Vent-hole, once in five or ſix Days, and continue ſo to do, for the ſpace of a Month, after which, once in fifteen Days will be ſufficient, for the ſpace of about three Months.

NOTWITHSTANDING the Fermentation will be over, long before this time laſt mention'd; you muſt yet obſerve to fill up all your Casks once a Month, ſo long as they continue in your Cellar, though it be for ſeveral Years; for you muſt conſider, that the Wines will inſenſibly waſt in the Casks, and if they are not kept continually fill'd up, will grow flat and heavy.

I need not inform you, that you muſt ſtop the Vent-holes of your Casks, when the Fermentation is over; your own diſcretion will be ſufficient to direct you in that, as your Obſervation will be to Inſtruct you, when it is a proper time.

IN *Champaign*, and *Burgundy*, they carefully obſerve, to move their Wines twice a Year conſtantly; to which purpoſe, the Dealers therein, have Store-houſes both above and under Ground.

ABOUT *April*, when they find the Warm Influence of the approaching Seaſon, to prevent their Wines from being effected thereby, they lay them down in their Cellars, or Store-houſes under Ground; as being much cooler then thoſe above Ground, where they ſuffer them to continue, untill about *November* following, when the coldneſs of the Seaſon rendering their Warehouſes above Ground, much cooler then thoſe under-neath; they draw up their Wines and depoſite them in the Warehouſes above, where they continue until about the *April* enſuing, and this Cuſtom they always obſerve.

The Reaſon for the ſame, is, that in the Winter time, Experience will convince every Perſon, that the Warehouſes above Ground, being more expos'd to the Rigour of the Seaſon, and more open to the Air, muſt neceſſarily be much cooler than the Cellars under Ground; ſo in the Summer time the Cellars are more cool than the Warehouſes above Ground, becauſe the Air being heated by the Sun Beams has a much freer Paſſage into them than the others.

For obſerve this as a certain Rule, that the cooler your Wines are kept, the longer they will laſt, and the more grateful they will be to the Palate; but let them be kept as near as poſſible in the ſame Degree of Temperature.

It may here be objected, that 'tis cuſtomary in cool Weather to ſet Bottles of Wine before the Fire e'er it is drunk, which gives it a more ſparkling Colour in the Glaſs, and renders it more agreeable to the Palate.

But this will prove but a very weak Objection; for I am hear to direct the keeping, and not the drinking of Wine.

The Coldneſs of the Weather, which keeps the Body and ſpirituous Parts of the Wine from evaporating, preſerves the Strength and Goodneſs thereof; but when it comes to be heated, whether by the natural Heat of the Weather, or by any artificial Means, the Particles are put into Agitation, which, if they work moderately, render the ſame more delightful to the Eye, as well as more grateful to the Palate; but if the ſame be violent, they are immediately thrown into Confuſion, and evaporated.

For frequent Experience demonſtrates this, as an undeniable Truth, that the greater the Agitation, the ſooner ſhall the ſpirituous Parts be exhaled and loſt.

And if Wine be kept too warm, it ſoon grows Eagre and Sower; whereas the keeping it cool will not admit of any Objection.

However theſe Wines being thus made, as herein directed, when the Fermentation is over, which will be in about three Weeks time, lay them up in your Warehouſes, or in your Cellars, if the ſame be not too hot, where when they have lain for ſome time, that you think they are thoroughly ſettled, you muſt draw them off into other Casks.

For this obſerve, that if your Wines are ſuffer'd to lye upon the Lees, they will ſoon grow Flat and Sower; to prevent which they muſt be ſhifted ſeveral times.

About the Middle of *December*, you may draw them off from the Lees into freſh Casks, for the firſt time; after which, ſee that your Casks are filled up, and then let them lye ſo, as they may not be ſhak'd, nor diſturb'd, until the Middle of *February*, at which time draw them off again a ſecond time, into other Casks; obſerving you leave them quite filled up, and ſo let them lye until the latter End of *March*, at which time, it will be proper to ſhift them again; the third Time alſo in *April*, when the Approaching Seaſon, requiring them to be laid into the Cellars, for the conveniency of the Coolneſs, they ought to be again ſhifted.

But thoſe Perſons who pretend to be the moſt Curious in the Making and Managing their Wines, and who indeed are generally allow'd to have the beſt Sort, are not content with Drawing them off only, as before directed, but likewiſe obſerve to Shift the ſame, every time they remove them from their Warehouſes to their Cellars, and from their Cellars, up to their Warehouſes, ſo that in four Years time, they will ſhift their Wines twelve or thirteen Times; and their Wines are by Experience, found to Exceed thoſe of others, which are not ſo carefully managed.

For this ſhifting the Wines, renders them much more brisk, lively, and ſparkling, then they otherwiſe would be, by reaſon they are drawn of from the foulneſs of the Lees, and Sediment, which their long lying in the Cask produces.

Experience has Confirm'd this, as an infalible Maxim, that the Wine by long ſtanding, produces a muddy Dreg or Sediment, which gives the Liquor a heavy, faint Look and Colour; and not only ſo, but likewiſe deminiſhes and abates the Strength and Vigour thereof; cauſing it to look more thick, dull, and faint in the Glaſs, and to be more weak, hot, and inſipid to the Palate.

To render their Wines more fine and agreeable to the Eye, and the Palate, they have recourſe to the ſeveral following Methods.

Against the time they intend firſt to draw them off, they take ſome fine Iſinglaſs, about the Quantity of an Ounce to every fifty Gallons of Wine; and firſt beating the ſame well with a Hammer, infuſe it in White Wine or Brandy until it be fully diſſolv'd, or the Diſſolution may be haſten'd by gently warming the ſame over a ſlow Fire, which would not otherwiſe be done in leſs than two or three Days.

When they find the Iſinglaſs to be fully diſſolv'd, they ſtrain the ſame thro' a fine Sive, to clear it from any Foulneſs or Dirt, which may chance to be therein, and about a Week or ten Days before the Wines are ſhifted, opening the Bung, pour in the Liquor, in which the Iſinglaſs has been diſſolv'd, then with a ſtrong Truncheon Staff which they keep on purpoſe for this Uſe; they ſtir the Wine in the Cask very well, for about the ſpace of five or ſix Minutes, obſerving not to put the Stick, where-with they ſtir the ſame, to the Bottom of the Cask, but only about two Thirds of the Way down, becauſe they will move the Sediment at the Bottom of the Cask as little as poſſible.

This ſtirring and mixing the Wines in the Cask, with the Liquor in which the Iſinglaſs has been diſſolv'd, puts the whole into a ferment, and incorporates them together, whereby the glutinous Particles of the Iſinglaſs, ſeizing any Foulneſs or other Filth that may accidentally be in the Liquor incorporates them together, and by its Weight cauſes it to deſcend to the Bottom.

THIS Iſinglaſs generally has its effect upon the Wine in about ſix or ſeven Days, ſhould it happen either thro' the Coldneſs of the Weather, as if that be violent, it will be an Obſtruction thereto, or from any other accidental Impediment that the Liquor in that time ſhould not be fine enough, according to your Expectation, you may repeat the Experiment, but let the Quantity of Iſinglaſs then put in, be but one Moiety of what was before.

IT is not Material in what Quantity of Liquor you diſſolve your Iſinglaſs, before you put it into your Cask; a Quart is generally allow'd, whether it be Wine or Brandy, to each Ounce of Iſinglaſs as ſufficient, tho' whether the ſame be more or leſs, is not Material.

AS ſoon as they find their Wines to be clear, they draw them off into freſh and clean Barrels, *&c.*

THEY will with three or four freſh Barrels, ſhift three or four Hundred, or any larger Quantity, for as ſoon as they have drawn of one, by emptying the Lees, Dregs, or Sediments, and immediately pouring out the ſame, it will be preſently fit for Uſe again.

THIS Method they obſerve, ſo long as their Wines continue in the Casks; When they intend to bottle them off, they chuſe to do it on a froſty Day, if the Seaſon of the Year will permit, if not on a cool and dry one; for Experience has taught them to make this Obſervation, that where the Wines are drawn of, either on a hot Day, or on a cold and moiſt, or rainey Day, the Wines will not be ſo fine, nor ſo brisk and ſparkling in the Glaſs.

For if on a hot Day, the Heat occaſions the Wine to ferment, and thereby moves the Lees and Sediment, which before lay at the Bottom of the Casks, which mixing itſelf amongſt the Wines, cauſes it to be much thicker and fouler.

The ſame may be ſaid, if it be a heavy, moiſt, or rainy Day, the unequal Preſſure of Air being ſo condenc'd, lies heavier upon the Wine, and occaſions an Agitation of its Particles, which puts it into a Fermentation, and ſtirs up the Lees thereof, to the fouling and diſordering the Whole.

The Weather therefore ought to be conſulted at the ſhifting of the Wines into freſh Casks, more eſpecially at the bottleing off of the ſame, it being to be ſuppos'd, when they are once drawn off into Bottles, they are not any more intended to be ſhifted.

There is however, an Art obſerv'd in *Champaign* and *Burgundy*, for keeping the Wine in Bottles; which, whether known amongſt our Vintners and Wine-Coopers, I cannot determine, but for the Satisfaction of thoſe Gentlemen who are ignorant thereof, I will before I conclude deſcribe the ſame.

In order to give a more lively, brisk, and ſparkling Colour to their Wines, they have recourſe to the following Method.

When they firſt ſhift their Wines into freſh Casks, they open the Bung of the Cask, intended to be emptied, and having in Readineſs ſome Linnen Cloth, they take a Bit about four Inches long, and an Inch broad, and dipping it all over in melted Brimſtone; then lighting one End thereof, put it into the Bung-hole, where they let it hang, ſtoping the Bung cloſe down again, until the ſame be burnt quite out.

They will likewiſe do the ſame again at the ſecond Shifting; but the Quantity of Brimſtone muſt not then be ſo great as before, a Bit about half an Inch broad and four Inches long, will be ſufficient.

The Reaſon of this, is, that the burning the Brimſtone, within the Cask, adds to the Brightneſs of the Wine, and makes it much more clear, tranſparent, and ſparkling.

However they are Cautious not to burn too much therein, becauſe, if they do, the Brimſtone will not only occaſion the Wine to ſmell, but will give it a diſagreeable Taſt likewiſe.

The *French* are naturally ſond of frothy Wine, eſteeming that to be the beſt, nor are ſome other People behind them in their Opinion, believing the ſame to be altogether Natural, and merely the Effect of the Goodneſs of the Wines.

THEY indeed ſeem to differ in their Opinions, as to the Occaſion of their Frothineſs; ſome hold that it proceeds from the frequent ſhifting the Wines, and drawing them off from the Lees.

OTHERS will have it to proceed from the Grapes, not being ſo thoroughly ripe when gather'd.

AND again, there are not wanting thoſe who impute it altogether to the Moon; alledging, it proceeds not from the Vine but the Seaſon of the Year, when the ſame was bottled.

WHICH of theſe Opinions are the right, I will not determine, or if there may not be ſome Colour of Reaſon for each of them.

AS to the Firſt, 'tis beyond Contradiction, Experience having ſo long confirm'd the ſame, that the Wine being drawn off from the Lees, will be much more bright and ſparkling; or as the *French* call it, more Brilliant.

AS to the Second, of its being occaſion'd by the Greenneſs of the Grapes when gather'd, it may in ſome Meaſure be true, from this Reaſon, as the Wine drawn from them, was not at firſt ſo potable as the other, it may conſequently retain its aſtringent Quality longer, and require a greater Degree of Fermentation, yet with proper Age, and the Helps for accellerating the Ripening thereof, before taken Notice of, it is better able to retain the Soundneſs of its Body, the Spirituous parts not being ſo much ſeperated, are not ſo Volatill and ready to fly away and Evaporate, as they are in thoſe Wines which are made from full ripe Grapes.

THEREFORE every Motion, eſpecially if any thing violent, muſt occaſion a Fermentation in a greater or leſſer Degree; and thoſe Wines which have the moſt Spirituous parts remaining in them, muſt be allow'd to be the moſt ready to Ferment, upon the Particles, being put into Agitation; and a more violent Agitation cannot be, than that of pouring the Wine from the Bottle or Pot into the Glaſs, for though the Motion of the Wine, to the Mouth of the Bottle may be almoſt inſenſible, (which is to prevent the raiſing of any Sediment from the bottom thereof) yet the fall into the Glaſs is violent.

THOSE who would have the Effects to be cauſed by the Moon only, pretend to found their Opinions upon Obſervations, which they will urge they have conſtantly made, and will tell us, that if the Wine be Bottled of from the Casks, about the begining of *March*, *Old Stile*, the ſame will infallibly prove Frothy; but they muſt continue in the Bottles in a cool Cellar, the ſpace of ſix Weeks or two Months at leaſt, before they will be fit to drink.

THEY ſay alſo they have made the ſame Obſervation, if the Wines be Bottled off, about the firſt, ſecond, third, or fourth of *September*, ſtill it will have the ſame Effect.

BUT how this may be ſaid, to be the Effects of the Moon, I am at a loſs to determine, becauſe the Moon is not always in the ſame Poſition on the firſt, ſecond, third, or fourth Days of *September*, nor on the ſame Days in *March*, but according to the various Years, is ſometimes New Moon on thoſe Days, and at other times Full Moon, *&c.*

HOWEVER *Bacchus* may have the Patronage of the Vine aſſign'd him; I do not remember that ever *Cinthia*, aſſumed any Governance over that Plant. They might with a greater pretence of Reaſon, impute it to the Winds, which generally ſit in about thoſe times, which by agitating the Air, put the Wines upon a Fermentation, adding to that, that in *March*, the Vines are then ſhooting, and in *September*, the Grapes are then gathering; which if there be any ſimpathy betwixt them, may with more reaſon be judg'd to be the occaſion of, and the cauſe of their Frothineſs if Bottled at thoſe times.

HOWEVER where all theſe Three concur together, the Reaſons may be much ſtranger, and perhaps, ſuch as will try the Experiment, may find the Event anſwer their Expectation, or at leaſt, let the Effect proceed from which of the three Cauſes ſoever, as the other are Obſervations proper to be follow'd, they aſſiſt and promote the Accelerating, and Ripening thereof.

FOR 'tis obſerv'd, that theſe Wines are not only frothy, but likewiſe more mellow, brisk, and pleaſant in Taſt, then the others.

THE demand for frothy Wines however, has occaſion'd the Dealers therein, to endeavour by Art to ſupply the want thereof; that is to contrive, and find out Experiments, to make their

Wines ſtill more frothy then they would naturally be.

To which purpoſe, they have recourſe to ſundry ſort of Drugs, and Chymical Preparations to effect the ſame, *viz.* by mixing Allum, Spirit of Wine, and Pidgeons Dung therein, which 'tis certain do in ſome meaſure anſwer the End.

But this they will not attempt, till they expect a Demand for the ſame, becauſe by the infuſion of theſe things, and other Drugs which they mix amongſt the Wines, the Fermentation will be carry'd to too great a height, when after ſome time, the Wines will fall flat and heavy, and then will become dead and ſower.

Thus it is demonſtrable, that even in thoſe Countries were the Wines are made, there are various Arts and Adulterations practiced by the Dealers therein, to help and remedy any defect that may happen thereto.

The complaint thereof is not always juſt, that the Wines are ſpoil'd and adulterated, by the Vintners, and Wine Coopers here; what they do, is many times a work of Neceſſity, when they find them turning eagre and ſower, on the one Hand, or to ſweet and ropey on the other; which is many times occaſion'd from a mixture of ſuch other matters, as have been made uſe of Originally, either to heighten and enliven the Colour, or to facilitate, and accelerate the Ripening thereof.

Here take notice, that thoſe Wines of the Mountains before mention'd, will keep very will in Casks for five or ſix Years, before you Bottle them off, if you are enclin'd to keep them ſo long; whereas thoſe of the Valleys and Rivers, ſhould not be kept at moſt above three, or betwixt three and four Years before they are Bottled; but when Bottled, will keep equally with the other, if the Corks be ſound and well ſtop'd

YOU muſt not be ſurpris'd to find your Wines work, long after they are put up into the Casks; whether the ſame lye in the Cellars, or in the Warehouſe, for take notice, they will be Effected by the different Seaſons, and the various impreſſions of the Air.

YOUR Wine will frequently vary in its Taſt, as you will find by Experience; and you ſhall have New Wine in the Months of *January*, and *February* next, after they were made, which ſhall be pleaſant and agreeable to the Palate, and then fit to Drink; yet in the Months of *March*, and *April*, next following, you ſhall find the ſame Wines to be grown tart, eagre, and ſover, and very unpleaſant to the Taſt, which proceeds from the Sympathy betwixt the Wines though in the Casks, and the Vines, which are then ſhooting, which occaſions the Wine to agitate and Ferment the more.

BUT in *June* or *July*, the Vines having done ſhooting, and the Fruit being then Set, and haſtening to its Maturity, the ſame Wines ſhall be again found to be perfectly made; of a good ſtrong and deep Body, and a pleaſant Flavour and Taſt; whereas in the latter end of *Auguſt*, and the Month of *September* next following, they will again be very hard and rough.

THOSE Wines which I have here diſtinguiſhed, by calling them Wines of the Rivers, by reaſon of the Vine-yards which produce them, lying upon the Banks thereof, will vary thus in their Taſt for the firſt Year, after which a nice Palate may diſtinguiſh ſome ſmall alteration in the Taſt and Flavour the ſecond Year; but after the ſecond Year, the ſame ſhall be inſenſible.

THOSE Wines which I have alſo call'd Wines of the Mountains, for the reaſons before given, will vary thus in their Taſt viſibly, for two or three Years, after which the impreſſion of the Weather, will be almoſt imperceiveable.

THIS Obſervation alſo will ſerve to evince, that 'tis not the Warmeſt Climate, which always produces the beſt Wines.

THEY always obſerve to fine their Wines down, in the ſame manner before directed, about ten Days before they Bottle of the ſame.

IN the Bottling whereof, they are very exact and careful to obſerve this Method.

HAVING a ſufficient number of Bottles in readineſs, to Bottle off the quantity of Wine intended, they carefully obſerve to fill each Bottle more than half way above the Neck, yet not ſo as to touch the Cork.

WHEN they have filled all their Bottles, and carefully Cork'd the ſame down, they ſtrew the Floor of the Cellar, where they intend to ſet them, with Sand about three Inches thick; and then lay their Bottles ſlanting thereon, and not ſet upright.

This they ſay will preſerve the Wines, much better than the other way of ſetting them upright, for it prevents any Air from paſſing to the Wine through the poors of the Cork, which if it did, would flat and deaden the ſame; ſo it likewiſe prevents the Spirituous part of the Liquor, from Exhaling and Evaporating thereout.

This is ſome times attended with Accidents, where the Corks are not ſound, or any ways damaged, there the ſame will ſtart out of the Bottles.

To remedy which, ſome Perſons not only Wire down their Corks as they Bottle of the Wine, to keep them from ſtarting, but likewiſe have in readineſs a Pot of Rozen and Pitch mixt together, which melting over a gentle Fire, when they have Wired down the Corks, they dip the Mouth of the Bottle therein, about a quarter of an Inch.

The Wiering down of the Corks, infallibly keeps them from ſtarting, and the diping in the melted Rozen, *&c.* ſtops up all the Pores, ſo as to prevent the admiſſion of any Air, or the Exhaling the Spirituous part of the Wine.

There are others, who when they have ſecur'd their Bottles in the manner before directed; inſtead of placing them in Sand, have Wells in their Cellars purpoſely made for this uſe, where they place their Bottles, till they have occaſion to make uſe thereof.

THIS will keep them much cooler than the other Way, and renders the Wine more brisk, and ſparkling in the Glaſs, as well as more cool and grateful to the Palate.

IN ſome Years (if the Grapes were over ripe before they were gather'd) the Wine, tho' in Bottles, and kept in the cooleſt Cellars, will grow thick and ropey, and taſt ſickly and faint, ſo that it will not be fit to drink; however, it will in time grow thin again.

BUT when it is ſo, the moſt proper Way is, to remove all the Bottles into the freſh, open Air, or carry them into an open Garret, if you have ſuch a Conveniency; they will there recover themſelves much better in the ſpace of eight Days, than they would in the Cellar, in the ſpace of ſix Months.

BUT there is yet a more expeditious Way, if you have occaſion for the Wine for preſent Drinking, which is this; take one of the Bottles in your Hands, and ſhake it violently for the ſpace of about two Minutes; then opening it immediately, ſet it ſlaunting; all the foul, ropey Dregs will preſently riſe to the Top of the Bottle, along with the Froth, which you may fling off at Pleaſure, and the reſt of the Wine will be fine and potable.

HERE take Notice, that the hotter your Wine is kept the more Rough and Hard it will be.

HAVING before directed the ſhifting the Wines into freſh Casks from time to time, it may not ſeem impertinent to take Notice of an Invention, they have in *Champaign*, for drawing or forcing the Wine out of the Cask, with the leaſt ſtirring of the Liquor, which they do in this Manner.

THEY have a Leathern Pipe, about ſix, ſeven or eight in Foot length, or more, as they think convenient, and about eight or ten Inches in Circumference; which is well Sowed, and Waxed ſo as to prevent any Liquor runing thereout.

TO each end of this Pipe, is faſten'd a hollow Wooden Plug, or Screw; in the ſame manner with thoſe uſed by the common Brewers, in Starting their Beer; the one End whereof, they fix or ſcrew into the Tap-hole of an empty Veſſel, and the other End is in like manner, fix'd or ſcrew'd into the Tape-hole of the full Veſſel, which is intended to be empted.

THEN opening the Vent-holes of each Cask, if the ſame are ſet level, the full Veſſel will without any trouble, about half empty it ſelf into the other Veſſel, through the leathern Pipe before mentioned, in a very little time, and with a ſlow Motion, without much heating or agitating the Particles of the Wine.

HAVING proceeded thus far, they have recourſe to the following Contrivance, to perfect the ſame, without removing the Veſſel.

THEY have Bellows purpoſely made for this uſe, which are very ſtrong, and ſome little matter longer then the common Kitchen Bellows, the Pipe of which, is ſomething longer then the others, with a Foot on the under Board, above the Vent-hole, for them to reſt upon.

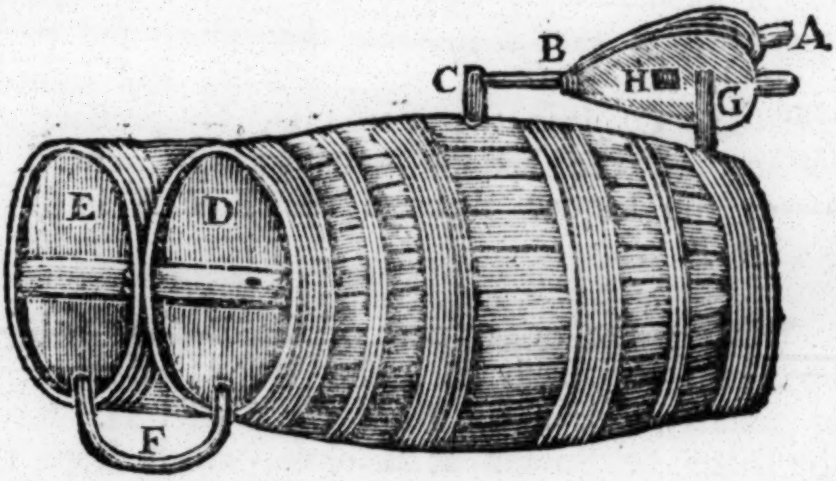
ON the Extremity of the Pipe, or Noſe, or Noſſel of the Bellows, is a Screw, and in the Pipe thereof, a ſmall Flap or Sucker, which when the Bellows, being full of Wind are preſs'd down, naturally is forc'd up, it opening outwards; to give vent to the Wind, which is preſs'd forwards; but as ſoon as the blaſt is over, the Sucker or Flap falls with its own weight, and prevents any return of Wind back again that way.

THERE is alſo a Pipe of Wood fitted to the Bung of the Veſſel, which being taper like a Spigot, will ſuit any Veſſel, and is made either to drive or to ſcrew into the Cask; this Pipe is hollow from the ſmaller end, to within about two Inches of the other end, at which diſtance from the Top, there is a Hole through the ſide of the Pipe which meets the other.

The Screw upon the ſmall end of the Pipe of the Bellows, muſt be ſcrew'd into the Hole in the ſide of Wooden Pipe or Plug, and the ſmaller end of the Plug, either ſcrew'd into the Bung-hole of the Veſſel intended to be empty'd, or elſe drove hard down, and faſten'd with a Screw to prevent its riſing, but its being ſcrew'd into the Bung-hole, is the beſt and ſafeſt way.

YOUR Plug being thus fix'd in the Veſſel, and the Pipe of your Bellows into that, the Foot of the Bellows will reſt upon the Veſſel, being about the ſame height with the Plug from the Bung.

THEN by blowing with the Bellows, the Air which paſſes thro' the Plug, will force all the Wine out of the Veſſel to be emptyed, into the other to be filled. But the manner thereof, will be better Comprehended by the following Figure.



A Repreſents the Bellows.
B The place where the Flap or Sucker is plac'd, to prevent the return of the Air, when once it is forc'd out of the Bellows.
C The Plug fixed in the Bung of the Veſſel, either by being drove down with a Mallet, or fix'd with a Screw, to prevent the Air from forcing it out of the Veſſel.

THE Hole at C is where the Noſe of the Bellows ſcrews into the Plug, which is hollow, to let the Air into the Veſſel.

D The Veſſel to be Emptied.
E The Veſſel to be Filled.
F The Leathern Pipe fix'd to the Tap-holes of each Veſſel, through which the Liquor runs from the Veſſel D into the Veſſel E.
G The Foot of the Bellows, which reſts on the Veſſel, to ſupport it whilſt they blow.
H The Vent-hole, where the Wind enters into the Bellows, in the common manner.

The Air entering into the Bellows by the Vent-hole at H, is, by preſſing down the Bellows forc'd onwards to B, where the Flap opening outwards, it naturally raiſes the ſame, and paſſes through the Noſe of the Bellows, and through the Plug C, into the Veſſel D, by preſſing the ſurface of the Liquor equally and gently, it forces the Liquor through the Pipe F into the Veſſel E.

When the upper part of the Bellows is lifted up again for freſh Air, the Wind indeavouring to return back again from the Veſſel D, forces the Flap or Sucker at B cloſe, which ſtops the return thereof.

But when the Bellows are gently clos'd again, the wind having no Vent at H, forces open the Flap B, paſſes through C into the Cask D, where by its preſſure upon the Liquor, it forces it forwards through the Pipe F, into the Veſſel E.

Thus theſe Bellows being fix'd, and blown gently, preſſes the Liquor all out of D in E, through the Pipe F, without cauſing the leaſt Agitation upon the Surface or heating the ſame at all.

When they have thus forc'd all the Wine, except about eight or ten Quarts out of the Veſſel D into E, they then ſtop the Veſſel cloſe to prevent the return of the Liquor, whilſt they remove the Leathern Pipe F, which having done, they gently draw of the Liquor remaining in the Cask D, obſerving, that there be not the leaſt Foulneſs, which they carefully mind.

They have then a large Funnel of Tin in readineſs, having a Pipe about eighteen or twenty Inches in length, the bottom of which, is not open like the common Funnels, but cover'd with a Plate of Tin, having only a few ſmall holes therein, but not ſo big as thoſe in the Mouth of an ordinary watering Pot.

Through this Funnel (the Pipe being long enough to enter the Liquor in the Veſſel E) they pour the remainder of the Wine drawn out of the Veſſel D, which by the means of the ſmallneſs of the Holes in the Pipe of the Funnel, can paſs but ſlowly; and conſequently muſt occaſion the leaſt Agitation, which muſt neceſſarily be much greater, if it were ſuffer'd to paſs through more violently.

Having thus Empty'd one Cask, they paſs on to the next, until they have ſhifted them all; Obſerving to fill the ſame carefully, within an Inch of the Vent-hole.

In this manner they ſhift their Wines, three or four times ſoon after they are made till about the *April* following; afterwards as often as they remove them from their Warehouſe and Cellars, in order to give them a better Colour, and make them more briſk, and lively; not forgeting the uſe of the Iſinglaſs, in the manner before directed.

Thus having ſhewn the Nature, and manner of Preſſing the Grapes, Casking, Fineing, Preſerving, and Keeping the Wine; as the ſame is practiced in *Champaign*, and *Burgundy*; it will be proper to return to the firſt Subject, the Vine-yards, and ſhew how the ſame are to be Manag'd, after the Grapes are gather'd.

After all their Grapes are gathered, and their Vintage over, in *November* their Vignerons or Labourers, return back to the Vine-yard, and Cut all the Vines down, to within two Inches of the Ground; and bundling up the Cuttings and Branches, into little Faggots, diſpoſe of them for Fewel.

The reaſon of their leaving two Inches of the Stock above Ground, is, becauſe the next Year, the young Shoots come out from that Place, and form a ſort of a Knot or Head, from whence the Fruit proceeds.

And thus Annually, they cut their Vines down to this Head; after which they dig the Vine-yard all over, throwing it into Trenches, as before is directed; and proceed in the ſame Manner.

There is a Cuſtom in *Champaign*, and *Burgundy*, and likewiſe in ſome other parts of *France*, that when they Weed their Vine-yards, they bring out their Weeds in Baskets, and carry them to ſome little diſtance near the Vine-yards; where making Fires, they burn them, and afterwards bury their Aſhes, pretending this keeps the Cattle from entering their Vine-yards, who ſmelling the Aſhes, will not come near the ſame, but fly from them.

WHAT ever truth there is in this Aſſertion, I will not take upon me to determine; but only relate their Opinion, as well as their Practice in this particular, and leave the Reader at Liberty, to cenſure their Proceedings, or try the Experiment if they think fit.

THESE are the Cuſtoms in Planting, Mannuring, and Cultivating a Vine-yard; which are obſerv'd in *Champaign*, and *Burgundy*; as likewiſe in the Preſſing, Making, and Managing their Wines, which I have choſe to lay before the Reader, as the moſt agreeable to Reaſon, and to Evince, that the goodneſs of the Wines, proceed from the Induſtry of the Inhabitants, rather then from the Advantages of Soil only, there being divers other places in *France*, much more Southerly then *Burgundy*, or *Champaign*, whoſe Wines are neither ſo alluring to the Eye, nor ſo grateful to the Palate.

IN *Languedock*, the Soil is indeed Richer then either that of *Burgundy*, or *Champaign*; yet their Wines are much poorer, beſides the Reaſons I have before Mention'd for it, there is another which is, that they are neither ſo diligent in the Culture of their Vine-yards, nor ſo careful in the Making, or Managment of their Wines.

THE ſame may be ſaid of divers other parts of *France*, about *Paris* particularly, where through the negligence of the Natives, and their careleſneſs in the Management of their Vine-yards, their Wines have but a very indifferent repute.

HAVING thus far treated of the Vine-yards, and the manner of Making the Wine, in ſuch a Method as to render the ſame obvious to the meaneſt Capacity; it may not be amiſs here, to deſcribe the ſeveral Sorts of Preſſes made uſe of in *Burgundy*, and *Champaign*; of which there are three Sorts.

THE Firſt whereof, which is alſo the leaſt, is call'd an *Etiquet*; it is about ſeven Foot Square, and will coſt about ſeven or eight Hundred Livers, or about ſixty Pounds Sterling. One of theſe Preſſes, are ſufficient for thoſe who have but ſmall Vine-yards, and may be work'd with four Men.

THE ſecond Sort is called a *Cage*, and is about ten or twelve Foot Square, and will Coſt about two Thouſand Livers, or One Hundred and Fifty Pounds Sterling; this will require ſix or eight People to Manage the ſame; this is fit for all thoſe who have not very large Vine-yards, being capable of Preſſing in one Day, two or three Hundred Gallons of Wine.

THIS ſort indeed, is what is made uſe by thoſe who have the largeſt Vine-yards in *Languedock*, and *Province*, and other parts of *France*; for there Wood is ſo very ſcarce, that there is hardly any Perſon in thoſe Provinces, (amongſt the Dealers in Wines, that would be able to purchaſe one of the largeſt Sorts, which are call'd *Teiſſons*.

THESE Sorts are about ſixteen Foot Square, and will Coſt about one Thouſand Crowns each, or three Hundred Pounds Sterling.

THESE Preſſes conſiſt not of ſeveral Pieces of Wood, joyn'd together, but are contrived in the following Manner.

THE Ground is firſt Dug away, where the Preſs is intended to be Erected, for the Depth of about three Foot, and about fifteen Foot Diamiter, in a Circular Form, then they lay two croſs Beams of a vaſt thickneſs on the bottom, croſs the Center of the Ground, where it has been dug away; anſwerable to this, is another croſs Beam prepar'd, of equal Magnitude with the other, and two large Poſts, turn'd in the manner of Screws, which by being let into the ends of the croſs Beams underneath, and in the like manner above, and ſo fix'd to each of the Beams, that they neither riſe nor fall, yet will turn round about.

THOSE Perſons who have ever ſeen any of our Packers Preſſes, may eaſily conceive the nature of the Frame of this.

EACH of the ſide Jambs or Poſts, being turn'd in the nature of Screws, there is another croſs Bar of equal ſize with the croſs Beams before Mention'd; through each end whereof, is a hole made Screw faſhion, which is proportion'd to admit the ſide Jambs or Poſt, to Screw through the ſame.

The ſide Jambs being ſo fix'd, in the under and upper Tranſoms, as to prevent the Floor of the Preſs from ſhrinking, or the Cap of the Preſs from flying of; and being made ſo as to turn in their Sockets, will by being turn'd round, force down the Bar, through which they Screw, towards the Floor of the Preſs.

The whole, being in every reſpect like one of our Packers Preſſes, but much larger and ſtronger.

Upon the Floor of the Preſs, is a Frame of Wood in a circular Figure, about eleven or twelve Foot over, and rais'd about two Foot high, in the extreem parts whereof are cut Notches or Groves, about two or three Inches Deep, and the like Breadth, with Gutters from each other, that the Liquor running from the Grapes, on to the Floor of the Preſs, may through them find a readier Paſſage to Vent it ſelf from the Spout of the Preſs into the Cask or Veſſel, ſet to receive the ſame.

The Body of theſe Preſſes, conſiſts not of a fix'd Frame of Wood or other matter, in which the Grapes are to be preſs'd, but of ſeveral pieces of Wood of equal length and ſize, which they lay Tranſvers to each other, in this Manner.

First laying down upon the Floor of the Preſs, two of theſe Pieces, at about the diſtance of three or four Foot from each other, they then lay other Pieces Tranſvers to, and upon them, at the like diſtance, ſo that there remains a Square or Cavity in the Middle, betwixt them, of three or four Feet Diamiter, they then fill the ſaid void ſpace betwixt the Beams with Grapes, and lay other Beams Tranſverſe to the laſt, continuing the ſame, until they have pill'd up the Grapes, and fram'd up an open Square in this Manner, four or five Foot in height, conſiſting only of croſs Bars, or Tranſoms.

THE Lid of the Preſs, which is to let down into this open Part or Cavity betwixt the Tranſoms, and conſiſts only of a very heavy piece of Wood, being let down upon the Grapes, will force ſome part thereof through the Cavities, betwixt the Tranſoms, on to the Floor of the Preſs; but the greateſt part thereof will continue under the Preſs, and by the weight of the Lid only, the Liquor will flow plentifully there-from.

THIS Liquor which thus runs from the Grapes in this Manner, is what is call'd, *Le Vin de Gout*, or *Le Vin de l'abaiſſiment.*

WHEN the Liquor ceaſes to run pretty plentifully, they remove the Lid of the Preſs, and taking away all the croſs Bars or Tranſoms, with ſteel Shovels, on purpoſe for Cutting, they Pare away all the Edges of the Cake, then laying down the Tranſoms again in the ſame manner, they were before, fill up the ſquare with the ſaid Cuttings, and the Grapes which were either forc'd over the Preſs by letting the Lid down thereon, or by filling up the ſame with other freſh Grapes.

THEN letting down the Lid of the Preſs again, you will readily perceive the Liquor will not run ſo pleaſantly as before, without Screwing down the ſame, which muſt be done pretty ſtrongly; but at the ſame time, with as much expedition as poſſible, to prevent heating, and colouring the Wine.

When the Liquor ceaſes to run, then take up your Preſs again, and cut the Grape Cake into pieces, throw it up into the Preſs as before, and Preſs it over again; this Preſſing will yield a greater quantity of Liquor, than either the firſt or ſecond did, for the Grapes will not now fly ſo much from under the Preſs as before.

Thus continue Cutting and Preſſing your Cake divers times over, as long as any Moiſture will run there-from; in ſix or ſeven times preſſing, it will be almoſt as hard as a Stone; which even then by Diſtilation, will yeild a tolerable good Brandy.

It may be here proper to take Notice of the ſeveral ways of raiſing and procuring Vines, in order to ſtock a Vine-yard, ſince at the Rates the Vines are ſold by the Gardeners, and Nurſery Men about the Town; it would come to ſo extraordinary a Sum, to Plant a good Vine-yard, that few or none would be willing to try the Experiment.

For according to the Method us'd in *Champaign*, for Planting their Vines; one Vine-yard of four Hundred and forty Yards in length and breadth, being forty Acres of Land, would require at leaſt one Hundred Thirty two Thouſand Plants; which at the Rates the Gardeners, and Nurſery-Men ſell their Vines; if at Six Pence per Root only, would coſt three Hundred and thirty Pounds.

BESIDES ſo great a Number, could not be ſupply'd by all the Gardeners, and Nurſery-Men in the Kingdom; unleſs the ſame were purpoſely rais'd, to anſwer the Demand.

TO obviate therefore the difficulties which might ariſe from the Scarcity, as well as the Charge; it will be proper to mention the ſeveral ways of producing Vines, whereby a ſufficient Quantity might be ſpeedily rais'd, and at a ſmall Expence.

THE moſt common way amongſt the Gardeners, and Nurſery-Men, is to raiſe them from Layers, that is from young Shoots, from or near to the Root of the Tree; which when they trim their Vines they leave thereon, ſometimes one, two, three or four to each Vine; which being bent down to the Ground, and the middle of the Shoot laid therein, about five or ſix Inches deep, carefully cover'd with good Earth, or Mold, and the end of the Shoot left above Ground, it is fed with Juices from the Body of the Tree, untill the part of the Shoot, which is buried in the Ground ſtrikes and take Root, after which ſeperating the ſame by cutting it of from the Vine, it becomes a Plant, and will bear about the third Year after.

THIS is the common Practice amongſt the Gardeners and Nurſery-Men, but the ſame is very tedious, and the produce very ſmall, for they can ſeldom lay down above three or four of theſe Layers from one Vine in a Year.

Another way much readier for producing Quantities of young Vines; and whereby a Perſon may ſoon ſupply themſelves with any Number they ſhall think neceſſary, and which I have ſeen try'd with Succeſs, is this.

To take the young Shoots, Suckers, and Triming of the Vines, at the Pruneing, about eight or ten Inches long, and clap them into a Pitcher, or Pail of Water, as they are cut of, until they can ſet them in the Earth.

When you are ready to ſet the ſame, having prepar'd a ſmall Spot of light, warm, mellow Ground, pluck of all the Leaves from the Setts, and thruſt them about ſix or ſeven Inches into the Earth, they will there take Root and Grow.

I have ſeen of theſe young Shoots or Twigs, ſet in this manner, and Shooting within one Month after; though they have not been ſet at above an Inch and a half, or two Inches aſunder, but it muſt be a very light Soil; though I ſhould think it much better, were they ſet at the diſtance of three or four Inches.

Let them not be ſet in to cool a Place, nor where they will be to much expos'd to the Extremity of the Weather, for a little matter muſt needs kill them, before they have taken Root.

About *November*, or the latter end of *October* after they are firſt ſet, you may cut them down to within two or three Inches of the Ground, in order that they may the better ſtrike at the Roots; theſe will in time become good Vines, and is a proper Method for ſuch Perſons, who would raiſe a large Number in a very ſhort time; for you may take from ſome Luxurious Vines, five Hundred of theſe Shoots in one Seaſon, whereas of Layers, you could not, perhaps, procure above three or four in a Year.

There is another way, which I approve of ſtill, better than any of the other, which is this.

Make choiſe of ſome Prolifick Vine, whoſe Shoots are very Luxuriant, and having ſingled out one or two more of the longeſt Branches thereof, open Trenches from the Root of your Vine, equal to the length of Branches, about ſeven or eight Inches deep.

If you perceive the Soil to be cold, heavy, or clayey, then mend the ſame, by a proper Mixture of fit Mannure to Invigorate, and Mellow the ſame.

Having done this, bend the Branches down, and lay one in each Trench at the depth aforeſaid, quite from the Root of the Vine, but do not cut it off; if there be any ſtrong Shoots upon the ſame Branch, you may likewiſe lay them down, by opening a Trench for the ſame, of a length ſufficient; having thus laid down theſe Branches, as many as you think proper from your Vine, but not ſo cloſe that they may either prejudice one another by the Roots, which will ſhoot out from the Branches intermixing, or by the Earths not yeilding a proper ſupply, and ſufficient Quantity of Juices to ſupport the ſame.

THOSE Branches will in a ſhort time, ſhoot out a vaſt Quantity of ſmall Fibres, quite from the Root of the Vine, to the extremity of the Branches; which Fibres will take Root in the Earth, and draw Nouriſhment therefrom, which will occaſion the Branches to ſend forth a great number of Shoots, which will the ſecond Year appear above the Earth, the whole length of the Trenches where your Branches were laid down.

THEN with a Knife, you may ſeperate the Branches from the Vine, cloſe to the Root, leaving the ſame ſtill in the Ground; when the Shoots appear ſtrong and vigorous, at the Seaſon for Planting; having firſt prepar'd your Soil, where you intend to Plant, take up the Branches with all its Shoots, and Fibres thereon, and with a ſharp Knife, cut the thick Branches directly croſs into little ſhort Pieces, about two or three Inches each in length, leaving both the Shoots, and Fibres thereon.

PLANT theſe little Pieces in your prepar'd Soil, at the diſtance you intend your Vines, and if the Soil be kindly, they will ſhoot apace; thus from one of theſe Branches, have I ſeen above one Hundred Vines rais'd in a ſhort time, which have ſhot and throve very well, and bore very kindly.

AND of theſe Branches may eaſily be laid down Annually from each Vine, enough to raiſe a large ſtock of Vines, in a ſhort time.

THIS will be a more Expeditious way, than the raiſing them from Cuttings, as is before Mention'd tion'd, for though you may have the pleaſure of ſeeing the Cuttings ſhoot ſooner; they will be but weak, and longer before they bear, theſe having a much ſtronger Root in one Years time, than the others will have in three.

When you have Planted them out in your Vine-yard, you muſt keep them Cutting and Pruning, in the manner as before directed.

An Experiment has been try'd with Succeſs, by laying down all the Branches of a large Vine, in the manner before deſcrib'd; and afterwards Planting the ſame out again, in the manner directed, and not only ſo, but likewiſe by cutting the Root thereof into pieces, in the ſame manner, and Planting the ſame, which has ſhot vigorouſly, and produc'd Fruit in a plentiful manner; but this Obſervation muſt be made, that the thicker the Root is, the larger the Pieces muſt be, by reaſon they are ſo much older, and therefore require a greater Quantity of Juices, in proportion, to ſupport them, till by being thus ſeperated, the new Fibres which ſhoot from them, occaſions them to become more Vigorous, and Luxuriant than before, and will bear more in proportion.

Thus from one of theſe Vines, according to the above Experiment, was produc'd upwards of fifteen Hundred Vines, a number ſufficient to ſet above half an Acre of Ground, in the manner propos'd.

Yet the beſt and eaſieſt way, (though not practis'd by our Gardeners, and Nurſery-Men in *England*) for raiſing them, is by Sowing the

Grape Seed; in which all that is needful, is this.

Make choice of ſuch Grapes as you intend to raiſe your Vine-yard of, and having ſav'd a large Quantity of the Seed or Stones, let the ſame be thoroughly dry'd before you ſow it.

Then preparing a ſmall Plat of Ground, in the Nature of a Cucumber-Bed, ſow your Seed therein, about three or four Inches deep; let it not be too much expos'd to the Extremity of the Weather, you will in a few Months time perceive the young Vines to appear very promiſingly, which will ſhoot that ſame Year to ſix or eight Inches in height.

About the latter End of *October*, or the beginning of the *November* following, cut them all down, to within two or three Inches of the Ground, obſerving to cut 'em off a little above the Joynt; then if the Place is too much expos'd to the Severity of the Weather, when the approaching Seaſon comes on, cover them with Mats, or ſome other Sort of Fence, to protect them from the Froſt and Snow, till the approach of a milder Seaſon, remembering, however, to allow them the Benefit of the freſh Air, on thoſe Days and Times which are moſt favourable.

The next Spring, you will find 'em begin to ſhoot again, more vigorouſly than the Year before; and if you perceive they are too Luxuriant, you may crop the young Tops, and prune them again, as before.

THE next Year they will be ſtrong enough to reſiſt the Weather, and you may begin to draw the largeſt and moſt promiſing of them for planting out into your Vine-yards.

BUT if you have ſown your Seed too cloſe, that you find the Quantity is likely to prove any Obſtruction to their growth, it will be proper to draw off the moſt promiſing of them the ſecond Year, and plant them out into Beds, at the Diſtance of five or ſix Inches aſunder, where they will thrive extraordinarily well; and in a Year or two afterwards you may plant them in your Vine-yards with good Expectation of Succeſs.

THESE Vines, thus rais'd from Seed, will bear Fruit about the ſixth Year; but notwithſtanding, they are preferable to thoſe rais'd from Layers or Cuttings; tho' thoſe rais'd from Layers will bear the third Year, and thoſe from the Cuttings about the fifth Year; for theſe rais'd from Seed, will be more ſtrong, vigorous, and bear in a much larger Proportion are not ſo ſubject to any Accident, and the Fruit will be much finer and better taſted, and the Vines continue much longer, they being fed and nouriſhed from their own natural Root originally; whereas all the others is only an artificial Way of Production.

BY this Method of raiſing your Vines from Seed, in order to be ſupply'd with Fruit of the Product of any Country, 'tis only to procure a ſufficient Quantity of Seed from thence, which may be had at a trifling Expence. Either the

Seed alone, or the Fruit, tho' if you have the Fruit, you are moſt certain not to be deceiv'd in the Sort.

There are ſeveral Ways of preſerving the Fruit of any Country, (from which you may at Pleaſure ſeperate the Seed.)

The Grapes from *Spain*, *Portugal*, *Italy*, &c. are frequently brought over from thoſe Parts, in Boxes, freſh and good; and ſold by ſeveral Fruiterers, and other Perſons in the Town.

The like is brought over ſeveral Ways, and preſerv'd from Putrefaction, by drying the ſame in ſeveral Degrees of Heat, as may be ſeen in the *Mallago* and *Smyrna* Rayſons, and Rayſons of the Sun.

And from each of theſe Sorts, or any other Sorts brought over, in the like Manner the Seeds may be taken, and preſerv'd for Sowing, which will anſwer Expectation; for the drying the Grapes does not in the leaſt deſtroy'd the Life of the Seed, or hinder'd the vivifying Faculty thereof, it being only the more watery Part of it, which is exhal'd by the Heat, and which, if not evaporared, would cauſe the Fruit to putrify, as we ſee in Grapes, Mulberries, Strawberries, Raſberries, &c. which, if gather'd with any Dew or Wet upon them, and laid in a cool Place, where the Moiſture cannot be preſently exhal'd by the Sun, or ſome other proper Degree of Heat, will immediately grow Rotten and Mouldy.

Those Perſons, who will be at the Expence of purchaſing the Plants from Abroad, may, by a proper Correſpondent, do it. The Charge of the beſt Plants, in *Champaign* and *Burgundy*, fit to ſet out into a Vine-yard immediately, is about Eighteen-pence *per* Hundred.

These may be pack'd up in Barrels, with a ſmall ſprinkling of Earth amonſt them; and being taken up about *Michaelmas*, will keep in that Manner until *Chriſtmas*, or longer, without being put into the Ground, and may ſafely be tranſported to any Place.

Of the ſeveral Ways and Manners of Production, before ſpoken of, I ſhould moſt approve of raiſing the Vines from Seed; for tho' they are ſomething longer before they begin to bear, they will quickly exceed all the others; adding to that, that the Charge is inconſiderable, as well of Seed as Tillage, a Spot of Ground of only ten Yards ſquare, will be ſufficient to raiſe above one Hundred and Fifty Thouſand young Vines till they are fit to be tranſplanted.

The next, to raiſing 'em from Seed, I would prefer that of producing them from an old Vine, or from the Branches thereof, in the Method before deſcrib'd, they being in Strength and Goodneſs equal to thoſe rais'd from Suckers, beſides the Difference in Quantity, one Vine being hardly capable of yielding more than three or four Suckers annually; whereas from the Branches laid down, as directed, they will produce as many Scores.

The third Way, from Cuttings, one may indeed raiſe any Quantity they think neceſſary; but they will be five or ſix Years before they begin to bear, and great Care muſt be taken, that they are not ſuffer'd to run too luxuriouſly, or ſpend themſelves too much in ſhooting; for the Roots being but weak, they would ſoon deſtroy themſelves, if ſuffer'd to run too much to Head; theſe ought to be kept down for two or three Years at leaſt.

The Advantages of this Method, is, that one may in a ſhort time procure any Number of Plants that ſhall be neceſſary for the ſtocking any Vine-yard whatſoever; and with Care theſe will raiſe a very good Vine-yard, keeping the Stocks down, to encourage the Roots, until they come to a Perfection in growth, when they will ſhoot on as vigorouſly, as any others.

Having thus briefly run thro' the ſeveral Cuſtoms of divers Provinces, in Cultivating, Manuring, Pruning, and Dreſſing of Vine-yards; and likewiſe in gathering the Grapes, preſſing the ſame, making, managing, and keeping the Wine, it may not be amiſs to give a Kalenderical Account of all the neceſſary Works proper to be done, in each Month of the Year, as well in the Vine-yards as in the Cellars; whereby the Reader will have a much better and clearer Idea of the Whole, and the Times proper for the Management thereof, than otherwiſe they might have.

In order to which, preſuppoſing that a Vine-yard has been cultivated, manured, ſet, and planted in the manner before directed, for the ordinary annual Work. I ſhall begin with the Month of

JANUARY.

In this Month, there is little needful to be done to your Vine-yard, unleſs you will turn the ſurface of the ſame, and caſt it up more into order, Trenchwiſe, it being ſuppos'd that you have Dug the ſame before, at its proper Seaſon; thoſe things proper for the time of the Year, you may Sow or Plant in the intermediate Spaces betwixt your Vines, taking care to leave ſuch Spaces, as will without prejudice admit your coming into the Vine-yard, to perform the neceſſary works of the enſuing Seaſons.

FEBRUARY.

In this Month, take of your prepar'd Manure, made from Hogs, Sheep, or Cows Dung, well mix'd with a proportionable quantity of Earth; after the ſame has been expos'd to the Weather for ſome time, to diſperce the ill Effluvias that would otherwiſe ariſe from the ſame, and prejudice the Vines, by giving an ill flavour to the Taſt of the Fruit. The preparing of this Manure has been before directed, of this let a ſmall Basket full be laid upon the Ground, and ſpread about the Root of each Vine, the better to diſperce and draw off any ill offenſive Smell, that may therein otherways remain; this Manure having thus lain expos'd to the Weather, about ten or twelve Days, open a little hole about a Foot deep, at the back of each Vine, and bury the Manure which you had before ſpread about the

Root therein; This will wonderfully ſtrengthen and invigorate the Vines, and they will ſhoot and bear much better for it; In your Pruning your Vines, obſerve to cut them down cloſe to the head of the Vine, which by your Annually cutting them down to the ſame place, you will find will form a Knot or Head, from whence young Shoots will always ſprout, theſe Shoots you muſt take quite off, excepting one or two of the moſt promiſing, you may plant young Vines in the room of any ſuch as are decaying, if you have omitted the doing thereof, in the three laſt Months, draw of your laſt years Wines into freſh Casks, in order to the better fining the ſame, remembring to make uſe of the Iſinglaſs diſolv'd in Water, Wine, Spirits of Wine, or Brandy, as before directed, and likewiſe the Brimſtone, keep your new Wines fill'd up in the Casks.

MARCH.

YOUR Vines will in this Month begin to ſhoot ſtrongly, obſerve to nip of from time to time, any young Sprouts, Shoots, or Suckers, ariſing from the Roots whilſt they are very tender, excepting thoſe left for Fruit; In order to encourage the bearing Branches, and having provided a ſufficient number of Poles, or Sticks, of ſuch ſorts as you think proper for your uſe, ſtick all your Vines therewith; Prune ſuch as you have either forgot, or have not had time to do before. As to your Wines, obſerve to draw off in this Month, as well your old Wines, as your new, to make them more fine and bright; thoſe Wines which you intend to Bottle, are fitteſt to be drawn off this Month, let them be plac'd in your cooleſt Cellars, as alſo thoſe Wines in the Casks likewiſe, to defend them againſt the Heat of the approaching Seaſon, ſee that your Casks are kept full, within an Inch or two of the Bung, to prevent their flatting or growing ſower.

APRIL.

BE careful to keep your Vine-yard free from all obnoxious and offenſive Herbs, Weeds, or Graſs; tye up the Shoots of your Vines to the Sticks, with Ruſhes, or Baſt, ſuch as Gardeners Matting is made of, and not with Packthread, or any ſuch like faſtnings, for as that rots and ſwells with Rain, or any Moiſture falls upon the ſame, it breeds and harbours Vermine, to the prejudice of your Vine-yard; in this Month, if your Vines ſhoot Luxuriantly, you may begin to Top the ſame, by niping of the Heads to about eighteen or twenty Inches in height; ſuffer not any thing Planted in your Vine-yard to run ſo high, as to interpoſe betwixt the Sun and the Vines, that may prevent their being fully expos'd to the Warmth of the ſame, or depriv'd of its kind, and benign Influence; enter not into your Vine-yard, in this or the next Month, whilſt there is any Rain, Dew, or Fog, upon the Vines, nor until the the Sun has exhal'd the Moiſture from the Vine-yard, by reaſon, ſhould you handle any of the Vines then, it will be very prejudicial thereunto, and thoſe which are ſo handled, generally Die, or at leaſt Languiſh for a long time, before they can recover themſelves; ſhift the remainder of your Wines, not ſhifted in the laſt Month, into freſh Casks, whether the ſame be New or Old Wines.

MAY.

YOUR Vines will now ſhoot ſo Luxuriantly, it will be neceſſary you go over your whole Vine-yard, taking of from the Heads, all ſuperfluous Shoots, not intended for Fruit, and likewiſe to Top all thoſe that are deſign'd for ſuch; To tye all your Vines to their proper Suppertors with Baſt, or Ruſh as aforeſaid, at about ſix or ſeven Inches from the Ground, and likewiſe at about fifteen or ſixteen, tye them cloſe enough to keep them from ſinking with the weight of the Fruit, yet not ſo cloſe as to pinch or obſtruct them in their Growth; but let theſe Works be done in the midſt of the Day, and whilſt the Weather is warm, for ſhould you handle the Vines whilſt the Dew is upon them, you will find it will prove very pernicious to the ſame.

YOUR Wines having been all ſhifted in the two laſt Months, you have nothing more to do to them in this, than only to obſerve, that the Veſſels in which they are contain'd, are kept always full, at moſt not to want more than an Inch and half, or two Inches of the Bung of each Cask, ſtill obſerving as they ſhrink, to fill up each Cask, to that height at leaſt, with freſh Wine from time to time.

JUNE.

IN this Month likewiſe, your Vines will require another triming, or taking off of the new Superfluous Shoots, which have ſhot out ſince your laſt dreſſing them; as alſo another tying, at about twenty two, or twenty four Inches from the

Ground; Top them again, and leave not your Bearing Branches, more than three or four Inches above your laſt tying, keep your Vine-yard clear of all Graſs, and Weeds, and begin to clear the intermediate Spaces betwixt the Rows of Vines, from all ſuch Herbs Sallating, &c. as you may have therein ſown, as well to prevent their drawing the Juices of the Earth to much, as to give you the more Liberty for your free egreſs and regreſs amongſt your Vines, without touching or damaging the ſame.

You have very little needful to do to your Wines in this Month, unleſs it be to Bottle off ſome of your Wines, which you may have occation for, either for uſe or ſale, in that Caſe ſhift your Wines, and fine them down as before directed, about ten Days before you draw them off; This ſhifting and fineing with Iſinglaſs, and burning Brimſtone put therein, will make the ſame more brisk, lively ſparkling, and brilliant in the Glaſs, than otherways it would be.

JULY.

Keep your Vine-yard free and clear, from all obnoxious and offenſive Herbs and Weeds; gather all your Herbage, and other matters ſown in your Vine-yard; pluck from the Vines moſt of the Leaves, leaving not more then four or five Leaves upon each, to give the Sun the greater liberty; if they ſhoot to much, nip of the Tops again, and any young Suckers that may ſprout out from the Roots.

You muſt now prepare your Casks ready, againſt the approaching Vintage, let them be all clean, and to give the better flavour to your Wines, infuſe ſome Peach Leaves and Flowers, in hot Water for ſometime, till the Water ſmells of the Peach Flowers; With this Liquor being hot, rince out all your Casks, the Leaves and Flowers, will add a pleaſant fragrant Taſt to the Wines, when the ſame are put therein, then let them be ſet by to dry, until your Wines are ready to be put therein; get your Preſſes in readineſs likewiſe, the nearer the ſame are to your Vine-yard, (if you would have your Wines fine, white, and clear) the better, but if you intend only to make red Wines, it is not material whether the ſame are adjoyning thereunto, or at any diſtance from the ſame.

AUGUST.

IF your Grapes appear to be ripe enough for the Preſs, as ſoon as you perceive you have a ſufficient Quantity fit to gather, get your Vignerons, or Labourers in readineſs, each of theſe Vignerons ſhould be provided with a Basket, or Pail in one Hand, to lay the Branches in as ſoon as gathered, and a Knife in the other, to cut the ſame from the Vine; obſerve in gathering the ſame, theſe following Directions.

Firſt GATHER them in Cool, Rainey, Dewey, Miſty, or Foggy Mornings, before the heat of the Sun has exhaled the Moiſture, from the Grapes.

Secondly, TO cut the Branches from the Vines, as cloſe to the Grapes as poſſible, thereby to have the leſs Stalk, becauſe the more of the Stalk goes into the Preſs, the rougher and tarter the Wine will be.

Thirdly, To carry them to the Preſs, without heating, or bruiſing, if you would have your Wines fine and clear, and to ſuffer no rotten Grapes to be put amongſt them.

Fourthly, To Preſs your Wines with the utmoſt Expedition, if you would have them White.

The *Champaigners* have Baskets made of Wicker, for gathering their Grapes, which are work'd ſo tite and cloſe, that nothing can paſs through the ſame, but they will retain the very Liquor, which they ſometimes carry therein.

Gather only ſuch Grapes as are moſt ripe, for the Wine drawn from this gathering, call'd the Wine of the firſt Gathering, is much finer then any that ſhall be drawn afterwards.

Press your Grapes in the manner directed, and having drawn your Wines, mix the ſeveral Sorts, according to your Inclinations, ſee that they are properly Fermented, and as thoſe of the latter preſſings, will be the moſt backwards, put ſome of the Froth which will ariſe from the finer Sorts, to thoſe others; to promote their Fermentation, put the Liquor into proper Veſſels, and ſet them in convenient Cellers, or Storehouſes, obſerve not to ſtop them down, but leave the Bung open for ſometime, and afterwards ſtoping down the Bung, open the Vent-hole, that they may have room to Purge and Cleanſe themſelves by Fermentation.

SEPTEMBER.

IF you gathered your Grapes, the firſt Cutting about the middle of the laſt Month, you will have another Cutting ready about the twentieth of this Month, which will be fit for the Preſs, which you muſt gather in the Manner before directed, ſtill leaving upon the Vines, all ſuch Grapes as either green or not quite ripe, until your laſt Gathering, obſerving always, that the cleaner your Preſſings are, from green, unripe, rotten, and damaged Grapes, the finer and purer your Wine will be.

OCTOBER.

ABOUT the latter end of this Month, you may gather all the remaining Grapes left upon the Vines, from your former Gatherings, if there be any green ones, unripe, damaged, or rotten one, it is not material, for the Wines will fine in there Fermentation, nor need you be ſo careful in the Gathering the ſame, nor ſo expeditious in the Preſſing, for this Wine of it ſelf, notwithſtanding the utmoſt Care, will be more backward, eager, and acid, than the others, beſides you muſt uſe Art, as well to promote the Fermentation, as to accelerate the Ripening of the Wine, when in the Casks, as has before, in the Body of this Treatiſe been particularly directed.

SHIFT all your Wines, as well New as Old this Month, and lay them in your warmeſt Cellars, to prevent their being to much chill'd, by the coldneſs of the Approaching Winter; Keep your Casks full of Liquor, let your Wines Preſs'd in this, and the next Month, be frequently rolled in the Casks, to heighten their Fermentation, which muſt be firſt begun, by putting into the Wine, when firſt put up into the Cask, a little of the Froth which ariſes from the finer Sorts, which cauſes them to ferment, as Eaſt or Barm doth Ale or Beer, and the frequent rolling about, likewiſe Heats and Melliorates theſe Wines, ſo as to render them much more Palatable, than otherways they would be.

NOVEMBER.

CLEAR your Vines (if you did not do it laſt Month) from all the Fruit left thereon, at former Cuttings; about the latter end of this Month, cut all your Vines throughout your Vineyard, down to the Heads before mention'd, about two Inches from the Ground; Cut them not directly croſs, but rather ſlopewiſe; that the Rain or Wet falling thereon, may not ſo readily lodge upon the Heart or Pith of the Vine, which if it does, it will be apt to rot and decay the ſame, to the prejudice of the Vines, but if the ſame be cut ſlopewiſe, it will run from off of them, without any injury; after which begin to dig your Vine-yard throughout, at leaſt ſixteen or eighteen Inches in depth, and caſt it up Trenchwiſe as before, remove your Sticks, or Poles, from your Vine-yard, to ſome convenient Place, till you have occaſion for them the next Seaſon.

PRESS and Cask your Wine in the manner before directed, but it will be neceſſary, all your Wines drawn in this or the laſt Month, ſhould be roll'd in the Casks frequently, to Ripen and

Melliorate the ſame, as is before mentioned, for theſe latter Wines will otherways be backwards, and not come to perfection without it.

DECEMBER.

FINISH the Diging and Trenching your Vineyard, as before deſcrib'd, if any of your Vines are dead or dying, or you would pluck them up, and Plants other in their rooms, you may do it any time this Month, if the Weather will permit, or in the laſt, or the next of it be an open Seaſon.

HAVING thus far treated of the nature of the Soil, Culture, and Management of Vine-yards, in ſuch a manner, as will ſufficiently inſtruct any Perſon in the true Method in Practice, for Planting, and Managing the ſame, for the Etertainment of the Ingenious; I ſhall here proceed to the mentioning of divers curious Experiments, the Knowledge of which is Profitable, as well as Pleaſant.

THERE are divers Methods of helping *Germination*, as well by the goodneſs and ſtrength of Nouriſhment, as by the comforting, and exciting the Spirits in the Plants, to draw the Nouriſhment the better, as daily Experience ſhews, that the Planting Trees againſt a warm Wall, to the South or South-Eaſt Sun, doth accelerate the ripening of the Fruit, without any application to the Root, or Earth; and that the South-Eaſt Sun, is better then the South-Weſt is demonſtrable, and found by daily Experienee, although the South-Weſt Sun is hotteſt; the cauſe ſeems to proceed from this, that a more moderate Heat is fitteſt to ſucceed the Colds, of the preceeding Nights, for where the Heat is to violent, the Juices are exhaled, and dryed up.

The Planting ſuch Trees, as Vines, Apricots, Peaches, &c. at the backſide of a Chimney, where a good Fire is conſtantly kept, is likewiſe found to be a means of haſtening *Germination*, and it is no unpleaſant ſight to behold, the Branches of a Vine drawn into a warm Room, thro' a hole in the Window, or Wall, for the Fruit will there ripen ſooner, than if it were altogether without doors; Experience in this Manner, hath produc'd Grapes a full Month ſooner than the uſual time.

Also if you mix *Nitre* with Water, to about the conſiſtance of Honey, and anoint the Bud of the Vines therewith, after the cutting the ſame, they will Sprout out in about eight or ten Days; the reaſon therefore is, that the Spirit of *Nitre* (which is in a manner the Life of Vegetable) opens the Bud, and parts Contiguous thereunto.

And to have the Trees, or Fruit larger than commonly are, many Perſons with ſucceſs apply Salt, Lees of Wines, or Blood, to the Roots thereof.

Also Experience hath taught, that the Grape-Cakes and Stones, after the Preſſing, cut in pieces and buried at the Roots of the Vines, is a very great helper.

We have been told by divers of the Antients, that if you take two Twigs of ſeveral Trees, as for inſtance, a black Grape, or a white, or any other Sorts, and gently bruiſing them, bind them together, and ſet the ſame in the Ground, they will grow into one Stock, notwithſtanding which, the Fruit will be various, the one White the other Black.

WHERE Note, that an *Unity* of Continuance, is much eaſier to procure than an *Unity* of Species.

IT is alſo reported, that two Vines, the one Red, the other White, or the one Black, and the other White, having their upper parts flatted, and bound cloſe together will grow into one, and will put forth Grapes of ſeveral Colours, upon the ſame Branches, and the Grape Stones alſo ſhall be differently colour'd; and the more, as they increaſe in Age, the Unity of Body growing more perfect, more eſpecially if they be frequently Watered, moiſture ſerving very much to encreaſe the Union.

IT hath likewiſe been obſerv'd, that young Trees ſet cloſe together, in very fruitful Ground, have ſometimes incorporated and grown into each other.

IT has long been a received Opinion, deduced from Tradition, that there is ſuch a thing as Simpathy, and Antipathy in Plants, and that ſome thrive beſt by growing near each other; but theſe are really no other than Fictions, there being in reality no ſuch thing as Simpathy, much leſs Antipathy in Plants, as has been aſſerted; what is thus commonly eſteemed Sympathy, and Antipathy, is no other than this, whereſoever any one Plant draweth ſtrongly any particular Juices from the Earth, as it qualifieth the Ground, it doth good to any other Plant adjoyning, that draweth other Sorts of Juices; the Juices remaining, being fit for the Nouriſhment of the other Plant, thus their Neighbourhood doth good to each other, and this is what is call'd Sympathy; But where each Plant draweth the like Nouriſhment, their Vicinity and Neighbourhood, is prejudicial to each other, the Ground not yeilding a ſufficient ſupply of Juices, or Nouriſhment for each of them, and this is what is called Antipathy, whereas in reality, if it be any thing, it is more properly Sympathy, they both requiring the ſame Juices, and Nouriſhments.

For this reaſon it is, that Coleworts are ſaid to be ſuch an enemy to Vines, that they hinder the growth thereof; whereas the real occaſion proceeds from this only, that they being very great drawers, attract the Juices of the Earth, in ſuch Quantity, that they leave not a ſufficient Quantity of the like Juices, for the ſupport of the Vines, which for want thereof, muſt conſequently ſuffer, and grow weak by their Neighbourood, ſo that if the enmity be underſtood in this Senſe, the Colewort is not only an enemy to the Vine, but to all other Plants, which require a great Nouriſhment of the fatteſt and richeſt Juices of the Earth.

As to the report, that the Vines next the Coleworts, will turn from them, (if that be true) it proceeds only from this Reaſon, that thoſe Roots next the Coleworts, being more ſparingly ſupply'd with proper Juices, not having ſufficient to ſupport themſelves, muſt conſequently languiſh and decay.

For this Reaſon it is, that Plants of contrary Natures thrive beſt, intermix'd with each other as is the Caſe of a Yew Tree, and a Fig Tree; ſo likewiſe of Roſes and Garlick, of the former, the one drawing the Bitter, the other the Sweet; and of the latter, that the odoriferous Juice of the one is drawn to ſupport the Roſe, and the more fetid the Garlick.

From this Obſervation an ingenuous Planter may help the Taſt and Reliſh of his Fruit, by intermixing the Bitter Plants amongſt the Sweet.

It would be Endleſs to enumerate the Experiments that may be try'd to this Purpoſe, by thoſe who are inclin'd. And from this Cauſe proceeds a great deal of the different Taſt of Fruits of the ſame Species; altho' moſt of our Gardeners and Nurſery-Men are ignorant thereof.

I Shall here juſt mention what I have before obſerv'd, that the ſmaller the Vines, the ſweeter the Wines will be, and the larger the Grapes; the frequent cutting and pruning them, keeping them more vigorous. It has been obſerv'd, that in antient Times, Vines were of much larger Bodies than at preſent, inſomuch, that drinking Cups have been turn'd out of the Bodies of them: And Hiſtory mentions ſeveral ſo large, that an Image of *Jupiter* was made out of the Trunk of one of them; but 'tis reaſonable to ſuppoſe theſe were wild Vines; for by their being ſuffer'd to grow, without cultivating, they grow much larger than thoſe in Vine-yards; but the Fruit is fit for nothing but to make Vinegar.

THERE are divers Ways which have been practiſed, by the Antients, for preſerving the Fruit of the Vines, after the ſame has been gather'd. Of which, for the Entertainment of the Curious, we ſhall mention ſome.

THEY take them in Bunches, and hang them in Strings, within an empty Earthen Veſſel, but not to let them touch any Part thereof; and having ſtop'd them cloſe down, ſet the ſame in a dry Place, they will keep a long time.

SO likewiſe if they are hung in the ſame Manner, within ſome Veſſels, a third Part or half full of Wine, but not to touch either the Veſſel or Wine, they will keep longer.

ALSO, that the preſerving the Stalks helpeth to preſerve the Grapes, eſpecially if the Stalks be thruſt into the Pith, or hollow Part of an Elder Stick, without touching the Grapes, the Juice remaining in the Elder, helping to preſerve and nouriſh the Grapes.

SO they have told us, that Grapes will continue freſh and moiſt all the *Winter*, if they are carefully hung in the Top of a warm Room, without bruiſing; but they muſt not be over ripe when they are gather'd, for the riper they are, the ſooner they will decay.

THIS Obſervation hath been frequently made, and found true, that Vine-yards planted near duſty and great Roads thrive beſt; becauſe the Duſt that ariſes from the Road, being carry'd amongſt the Vine-yards, leaves a Soiling upon the Vines when the Showers fall, which greatly conduces to the Nouriſhment thereof.

The burning of the Cuttings and Trimmings of the Vines alſo, and the Aſhes caſt upon the Vine-yard before the ſame is dug and cultivated, is of very great ſervice to the ſame.

It was a Practice, in Uſe formerly, amongſt the Antients, to graft Vines upon Vines; of which, there were three Ways. The firſt, by Inciſion, or the common Manner of Grafting. The ſecond, by Terebration, thro' the Middle of the Stock, and placing the *Cions* there. And the Third, the parting of two Vines that grow together, to the Marrow, and then binding them cloſe. But of this we ſhall ſpeak farther before we conclude, by relating ſome Experiments which we have ſucceſsfully try'd, and which will be of ſingular Uſe and Advantage to ſuch as have any Fruits, which they are deſirous of improving.

This Practice was alſo uſed by the antient *Grecians*, to keep their Wines from Fuming, and Inebriating, which was by adding a Quantity of Sulphur and Allum; the one is Unctious, and the other Aſtringent; for which Reaſon, the Nature of thoſe Things, is to repreſs and prevent the Fumes.

This Experiment would be of very great Uſe, if it were practiſed in our Wines and Drinks, by preventing them from intoxicating or ſtupifying the Drinkers thereof, if the ſame were put in, whilſt the ſame is in its Fermentation or Working.

THEY have likewiſe accelerated the Ripening of the new Wines, by letting the ſame down into the Sea, or laying the Veſſels ſometime in Salt Water.

IT is reported by the Antients, that if you take the young Shoot of a black Vine, and likewiſe of a white, and ſplit them through the middle, taking care not to looſe out the Pith, and joyn the contraries together, binding them up cloſe with Loom, or ſome ſuch like Conſiſtence, then Graft them into another Vine ſtock, they will ſhoot and bear Grapes, the Kernells or Stones, of which will be half black, and half white.

SO likewiſe it is reported by *Columella*, that if you take the Branches of a white Vine, and of a black Vine of the ſame ſize and growth, and gently bruſing them, bind them carefully together, and Plant them into ſome fruitful Ground, they will quickly unite and grow together, and produce Grapes of different colours; alſo he ſays, that if you will take the young Twigs freſh from the Vines, four or five, or more of ſeveral Sorts, and binding them up together, fill an Earthen Pitcher, or Jugg, (having a wide Belly, and a ſtrait Mouth, with fit Mould,) and therein ſtick the Shoots, ſo that their Tops only be above the Earth, and ſetting the ſame in the Ground, they will grow, and the Bodies of them will unite into one, being confin'd by the ſtraightneſs of the Mouth of the Pot; which when you find they are, you may break the ſame in Pieces, and Plant it into the proper Ground, where you intend to ſtand, and they, will bear Fruit of ſo many different Colours, or Sorts

Sorts, as the Vines they were originally taken from; you muſt take care to keep them well water'd, whilſt they lye in the Pot, and when you find them ſufficiently United, you may cut of the Tops, in the place where they ſeem to be the moſt ſtrongly joyn'd, and having healed the ſame, to prevent its bleeding to Death, ſet it in the Ground again, covering it about three Fingers over, it will ſoon ſhoot, from whence you may take of two or three of the moſt promiſing, and ſtrongeſt Shoots, and Plant them in ſuch places as you think proper, they will bear Fruit according to your Expectation, this ſame Experiment is mention'd by *Pliny*, as well as *Collumella*.

BUT *Didymus* directs the Experiment to be try'd in this Manner; you muſt *ſays he*, take two Vine Branches of divers kinds, and cleave them through the middle, but ſo carefully, that the ſlit go down to the Bud, and that none of the Pith be loſt, then cloſe them together ſo exactly, that the Buds meet, and let them touch each other, whereby both of them may unite and become one, then bind up the Branches with Paper, as hard as you can together, and cover them over with the Sea-Onion, or ſome other ſtiff, and clammy Matter, then Plant, and water them, for four or five Days, after which time they will joyne, and ſhoot forth one perfect Bud.

AND *Johannes Baptiſta Porta* the *Neapolitan*, relates this Experiment, of his own knowledge; *I my ſelf*, ſays he, have made choiſe of two Shoots of divers Vines, growing one by another, I cleft or cut them of, in the place where the Buds were growing forth, leaving the third part of the Bud upon each Branch, after which I faſtned, and bound them together into one, very faſt, leſt as the Buds grow larger, one of them might fly off, or break from the other; and having fitted them ſo well, Branch to Branch, and Bud to Bud, that they made but one Stalk, the very ſame Year they brought forth Grapes, with cloven Kernels or Stones; this Shoot ſpringing up in this Sort, I then put it to another, (in the like manner as before) and when that was ſo ſprung up, I joyn'd another in the ſame Method, and to ſeveral others afterwards, in like Sorts, but all of various Kinds, by which Method, I procured and had growing upon the ſame Vine, at one and the ſame time, Cluſters of Grapes of divers Colours, and divers Natures, for one was ſweet, and another ſower, one red, another black, one white, and another green, the Stones of ſome were long, the others round, ſome ſlit, and others crooked, which was a pleaſant and curious Sight to behold.

Florentinus in the Eleventh Book of his *Georgicks*, alſo *Diophanes* ſay, that if a Hole be bored through the Trunk of a Vine, near the Ground, and then drawing an Olive Branch into the ſame, ſo that it may both receive from the Vine the ſweetneſs, and from the Ground its natural Juices and Moiſture, the Fruit will participate of both kinds, more eſpecially if this Experiment be try'd upon a young Vine, before it has born any Grapes, and that this Fruit was call'd by the Antients *Eleo-ſtaphylus*, or the Olive Grape; and adds, that in the Orchard of *Marius Maximus*, he both ſaw and taſted the Fruit thereof, which was produc'd in the manner before directed; and ſays further, that ſuch Plants in his time, grew in divers parts of *Africa*, where they were call'd by a Name proper to that County, *viz. Ubolima.*

Also *Tarentius* Writes, that if the Vine is Engrafted into the Mirtle Tree, the Branches which are ſo Engrafted, will bear Grapes, having Mirtle Berrys growing underneath them, but this muſt be obſerv'd, the Grafting muſt be near to the Ground, otherways if it be Grafted on the Top of the Mirtle Tree, they will bear pure Grapes, without any Mirtle upon them.

TARENTIUS writes, that if you engraft a Black Vine upon a Cherry-Tree, it will produce Vines in the Spring time, at the ſame Seaſon, that it would have produc'd Cherries. But this Method of Engrafting muſt be in the Manner preſcrib'd, by *Didymus*: That is, by boreing a Hole thro' the Stock, which muſt be done in this Manner. With a large Wymble or Auger, bore a Hole thro' the Body of the Tree, than take one of the beſt Branches of a neighbouring Vine, and draw it thro' the Hole, as far as you can; plaiſter it about on each Side with Loom, and let it ſo continue for the ſpace of about two Years, before you cut it off from the Vine, by which Means it will thrive the better, as being nouriſhed from its own Mother-Root; when you find it grown and incorporated into the Tree, and that the Skar is grown over again, which it will be in about two Years; then cut of the Branch from the Vine-Root cloſe to the Tree, and ſaw off the Body of the Cherry-Tree juſt above the Place where it was bored, ſo ſhall you have Grapes anſwerable to your deſire.

But in order to make your Vines bear Fruit before their common Seaſon, do this: Take *Nitre*, powder it and mix it with Water, and as ſoon as you have prun'd your Vine, anoint their Buds therewith, ſo that it lye thick upon them; you will find by this Means they will ſhoot in about nine or ten Days. And if you take the Mother of the Wine, or Wine Lees, or the Grape Stones, or old Grape Cakes, beat in Pieces, and lay them to the Roots of your Vines, it will occaſion them to bear much ſooner than otherwiſe. So likewiſe the Sea-Onion, laid to their Roots, will produce the ſame effect.

Or, if you would have Vines bring forth Grapes, later than their common Seaſon, when you find them ſet, and that they have put forth their young Bunches, nip them all off with your Fingers, ſo ſhall you effect your deſire, for the Vines will ſhoot again, and the Fruit be conſequently ſo much later.

The Experiment, related by *Democritus*, for procuring Grapes, without Stones, is on this Manner. *If*, ſays he, *you take a Branch or Twig of a Vine, and cleave it juſt in the Middle, and with ſome proper Inſtrument, made of Horn or Bone, ſcrape out all the Pith, ſo far as you plant the ſame into the Earth, and preſently binding up the Parts again, with Paper, very tight and cloſe, and making a Trench in ſome moiſt and proper Soil where you may conveniently plant them, binding it up to ſome Poſt or ſtrong Stake, that it may not be twiſted with the Wind, before it is firmly united, the ſlit will ſoon cloſe, and the Sides grow together again; but if you put into the hollow*

Part, from whence you took out the Pith, the Head or Clove of a Sea-Onion, it will be better, for that is of ſo glutinous a Nature, that it not only nouriſhes, but likewiſe binds and cements the Sides together like Glew.

THEOPHRASTUS alſo confirms the ſame, by ſaying, *If you rob the Vine Branch of the Pith that is in it, whereof the Stones are gendred, you may procure Grapes without Stones.*

ALSO *Columella* affirms the like, ſaying. *If you would have Grapes without Stones, you muſt cleave the Vine Branch, and take out all the Pith; but ſo that the Buds be not hurt thereby; then joyn it together, and plant it in the Ground; moiſten and water it very well, and when it begineth to ſhoot up into Slips, you muſt dig about it very frequently; and when it cometh to bear, it will produce Grapes without any Stones.*

PALLADIUS alſo deſcribes the ſame in the like Manner; and aſcribes the Invention to the *Greeks*; who, he ſays, aſſiſt Nature, by Art, in the Attainment thereof.

PLINY, ſpeaking of this Method, ſaith, it will produce Grapes that have no hard Kernels in them.

SOME will, perhaps, object, that a Tree cannot live without the Pith; but the ſame has been experienc'd to be a manifeſt Error, not only in Vines, but in other Fruit Trees; alſo *Democritus* and *Africanus*, both affirm the ſame Experiment to have been try'd upon Cherries and Pomgranets with equal Succeſs.

JOHANNES BAPTISTA PORTA ſaith, that if you will Engraft a white Vine into a black, the ſame will produce red Grapes, and mentions to have try'd the Experiment ſeveral times, upon thoſe call'd Honey Grapes, or Greek Grapes; and that the Grapes have yeilded a blackiſh Liquor, or Juice, and ſays, the oftener ſuch Grafting is practiced, the blacker the Liquor will be; and that in and about the Mountain *Veſuvius*, the white Wine Grape growing upon her own Stalk, and Engrafted into the Greek Vine, yeilds a much more high colour'd Wine than others do.

PAXAMUS tell us, that if we would have Vines to ſmell ſweetly, or the Grapes to be perfumed, that if the Branches are cleft, and ſweet Ointments or Perfumes poured therein, when they are Planted, both the Vines, and Fruit, will taſt and ſmell accordingly; ſome have Practiced it by ſteeping, or ſoaking the Branches, in ſweet and perfumed Oyles, before they are Planted, or Engrafted; alſo an other Way is related by *Johannes Baptiſta Porta*, of his own Experience, *viz.* to ſteep the Branches in Roſe Water, before the ſame is Planted, in which Musk has been inſuſed.

AMONGST the many Experiments that have been practiced in former Days, none is more ſurpriſing than thoſe that have been Invented by the Antients formerly; *Theophraſtus* tells us, that about *Heraclia* in *Arcadia*, there was a Wine, of which if Men drank they became Mad, and if Women drank of the ſame, it made them Baren; the ſame, *Athenæus* ſaith of the Wine of

Troas a place in *Greece*, and that in *Thraſus*, there is a ſort of Wine, which being drank procureth Sleep, alſo *Florentius* advices the Planting of Medicinal Vines, which may be good againſt the biting of Venemous Beaſt, in this manner, take a Vine Branch, cleave it to the lower part near the Root, that the cleft may be about four Inches long, pluck out the Pith, and inſtead of the ſame, fill up the Cavity with Helibore, bind it up cloſe, and cover the ſame with Loom or a Sea Onion, and bury it in the Earth, it will grow and produce Grapes, that if eaten, ſhall make the Body Soluble; or if you would have the Grapes more Operative in this kind, inſtead of Helibore, put in ſome Antidote or Counter Poiſon, then ſet it in the Head of a Sea Onion, and cover it in the Earth, watering it frequenly with the Juice of ſome Counter Poiſon, that the Vine may draw in the greater plenty of that Liquor, and the Fruit will be the ſtronger in its Operation.

PALLADIUS ſays, if you take a Veſſel half full of Hippocras, or Conſerves of Roſes, or Violets, or Wormwood, with the Earth that grows about the Root, of thoſe Vegetables, and mix them together, making a ſort of a Lye thereof, and thereinto put Vine Branches, letting them continue therein, until the Branch that grows from the Bud, begineth to bear Leaves; that then if you take them away, and ſet them out in ſuch Ground where you intend them to continue, they will bear Fruit, according to your Expectation.

If you would have Grapes that ſhall be Purgative, do thus, after your Vintage is over, uncover

cover the Roots of ſo many Vines as you think proper, take ſome Helibore Roots, and beat them in a Mortar, and cover the Roots of your Vines therewith, having firſt Trim'd and Prun'd them, cover them with a mixture of old rotten Dung, Aſhes, and twice the Quantity of Earth, this will produce a Grape for your purpoſe, if you make it into Wine, mix a Cup of it with Water and drink it, it will anſwer your Expectation.

PALLADIUS directs the preſervation of Grapes in this manner, *If*, ſays he, *you would preſerve Grapes long, chooſe ſuch Branches as are ripe, but let there be neither green ones, nor rotten ones, dip the ends of the Stalks in melted Pitch and hang them up in a moderate warm Room, they will keep a long time.*

But if you would have your Grapes continue upon the Vines all the Winter, or until the next Seaſon, do this, chuſe out ſome of the beſt and faireſt Branches of Grapes growing upon a Houſe Vine cut them not of, but looſe the Branches from the Wall, and gently wind them in at a Window or other conveniency and bind them up to the Ceiling of the Room, where they may continue without bruiſing, ſo ſhall they laſt all the Seaſon, until the next Year, that new Grapes come again, when you may have the Pleaſure to ſee, both old and new Grapes, growing upon the ſame Vine, at the ſame time.

Another way is this, in the beginning of the Seaſon, chooſe ſome of the moſt promiſing Branches of your Vines, before the Grapes ſet, and being provided with Earthen Pots, each with a hole in the bottom, through the ſaid Holes, draw the Branches of your Vines, then faſtening the Pots to the Wall, ſo as to prevent both their breaking and falling, fill the ſame with the beſt light warm Mould you can procure, ſo that the Branches coming through the Poſts, will ſeem to grow therein, let them continue in this Manner, (taking care to water the ſame) till the Grapes are almoſt ripe, then cut of the Branches cloſe to the bottom of the Pot, and anoint the place where it is cut of, with the Sea-Onion, and taking down the Pots from the Wall, with the Branches and Grapes growing therein, carry them into ſome warm Room, where let them continue, the Vines will take Root, and grow in the Pots, and the Grapes will continue freſh and fair, upon the ſaid Vines till *Auguſt* following, if you are minded to let them hang ſo long.

SOME of the Antients, have directed the digging of Pits, or Ditches near the Vines, and bending down the Branches of the Vines therein, to let the Grapes hang in the ſame, covering them over from the Wet, however this way has not been found to anſwer what they propos'd from it, Experience has ſhow'd that the Grapes have been half rotten, and quite faded in colour; a manifeſt cauſe thereof, has been occaſion'd by the Dampneſs and Coolneſs of the place, which notwithſtanding its being cover'd from the Rain, ſtill yeilds a Moiſture and Dampneſs, which occaſions them to rot and decay.

ANOTHER, and a better way than this laſt Mentioned, and which may be effected with very little trouble; in this, take a Box or Caſe, let the ſame be well Pitch'd within, and ſtrew therein the dry Powder, or Duſt of the Pitch, or Firr-Tree, or the black Poplar-Tree, or elſe the Flower of Mellet well dryed, and therein lay the Grapes, obſerving that the Grapes are all ſound and ripe, without any Dew or Moiſture upon, if there be the leaſt Dampneſs upon them, they will grow Mouldy and decay, then cover the Grapes, by ſtrewing more Saw Duſt, or Millet Flower upon the ſame, being firſt well and carefully dry'd, then lay in more Grapes as before, covering them again with Duſt or Flower, in the like manner, after which cloſe down the Lid of your Box, the inſide being Pitch'd, and ſtop it cloſe, by Plaſtering it all over with Loom, or Mortar, and ſet them in a dry place.

COLUMELLA ſaith, that if you take the great Tear Grape, or the hard skin'd Grapes, or the fair Purple Grape from the Vine, and dip their Stalks in melted pitch, then taking a new Earthen Veſſel, and puting in ſome dry Chaft well ſifted from Duſt, and laying your Grapes therein, as is above directed, having an Earthen cover to your Veſſel, put the ſame thereon, and ſtop it cloſe with Loom, or Mortar, to keep out the Air, and ſet them in ſome dry place, letting them ſtand until ſuch time as you think proper, to open them for your uſe.

ALSO the hanging up of Grapes in a Malt Loſt, preſerves them, for the Malt Duſt which ariſeth from the frequent ſtirring thereof, ſettling upon the Grapes, keeps them from decaying.

CASSIANUS tells us, that if we put Beet Roots, bruiſed into Wine, in three hours time it will become Vinegar, on the contrary he adds,

that

that when he had a mind to reſtore the ſame, he put in ſome Cabage Roots, and the ſame was quickly turn'd into good potable Wine.

HAVING thus far treated of the Vine, and the Fruit thereof; We ſhall now proceed to ſay, ſome thing more fully of the Liquor made of it, and the proper Methods to remedy its defects.

OUR Anceſtors have found out many remedy's to preſerve Wine, nor have their Deſendants been leſs diligent in their Endeavours. *Paximus* tells us, that about the ſolſtice Wine, will grow ſower or dead, ſo in extreem Hot or Cold Rainy or Windy Weather, or when it Thunders; *Africanius* gives us divers Signs and Tokens, by which to know what Wines will corrupt; The ſmelling to the Lees, will diſcover the goodneſs and ſtrength of the Wine; alſo by taking a Cup of the Wine, and heating it and taſting it when Cold, a ſtrong Taſt is a good ſign, a Watery one but a bad one, Sharpneſs a ſign of Duration, Weakneſs of its Corrupting.

IF the Wine be weak, it will preſently corrupt, for the warm Air ſoon draws out the Vital and Spirituous part, to remedy this Defect, apply a Quantity of Aqua-Vitæ, for that is reſtoring a new Soul to it.

IN the Summer Solſtice, if you find your Wine grow to hot, and are apprehenſive the Spirit will Exhale thereby, take a pound or two of Quickſilver, put it into a glaſs Bottle, ſtop it cloſe, and let it down by a String into your Cask, the coldneſs of the ſame, prevents the Spirituous parts, from Exhaling by the heat of the Weather.

Also the putting of Oyle upon the Wine, prevents the Spirits from Evaporating, as we ſee is done in *Florence* Wines, and in ſome other Liquors.

FRONTO tell us, that if the Wines be foul, if we put three Whites of Eggs, into a large Earthen Diſh, and beat them, till they froth, and then put a little of the fineſt white Salt to them, they will be exceeding Fine, then pour them into a Veſſel full of Wine, the Quantity of Salt to the white of each Egg, is an Ounce, and the proportion in Quantity to the Quantity of the Wine, is ſometimes more or leſs, according to the foulneſs thereof, generally half a dozen Eggs to a Veſſel of ten, or twelve Gallons of Wine, when you put this into your Wines, ſtir it very well together in the Cask with a Stick, that it may incorporate and mix with the body of the Wine, and it will be fine in four or five Days at fartheſt, for there is a certain property in the whites of Eggs, to clarifie and make all thick Liquor clear.

So is there in Salt, to keep things from corrupting, therefore if you mix to one Ounce of Salt, one ounce of Allum, and incorporate it into your Wine, it prevents its corrupting, alſo Brimſtone hinders its putrefaction, therefore it will be proper to mix four Ounces of Salt, four Ounces of Allum, and four Ounces of Brimſtone, together.

It has been practiced formerly amongſt the Antients, to preſerve Wine, by adding Salt, or Sea Water to, and it would continue a long time.

COLUMELLA teacheth, to take Sea Water out of the deep and ſtill Sea, and boyle it away to a third part, adding ſome Spices thereunto, and mixing it with the Wine, in order to prevent its putrefaction.

There is a Method practiced by our Vintners, and Wine Coopers, in curing their Wines, which is in daily uſe and practice, although the Method is hardly known to any, but themſelves, which is when their red Wines are Prick'd and Eagre, to diſcharge the colour of them, and make them white Wines, which they do in this manner.

Take three or four Gallons of new Milk, let it ſtand tell it Creams, skin it of clean, let it ſtand till it creams again, and skim it; do this ſo often till no more Cream will ariſe thereon, and the remaining Milk will be of a bluiſh Colour; then take the Whites of about eighteen or twenty Eggs; beat them very well; mix them together, and incorporate them with the Milk; then pour the ſame into your Cask of Wine, and with a Stick, which will reach almoſt to the Bottom thereof; ſtir the ſame well, as quick as you can, for ſix or ſeven Minutes together; ſtop it up cloſe, and let it ſtand, the Red Colour will all ſink with the Lees, and a clear White Wine remaining, if the Body be too weak or faint, it may be reviv'd or recover'd with *Aquavitæ*, Spirits of Wine, or ſome other proper Mixture to ſtrengthen and invigorate the ſame.

Having treated thus largely of all Things neceſſary to be underſtood, relating to the Planting, Manuring, Pruning, and Dreſſing of Vines, Keeping and Cultivating a Vineyard, Making and Drawing of Wines, with the Managing and Curing thereof, and enlarg'd the ſame, by adding ſeveral Experiments, both Pleaſant and Profitable for the Entertainment of the Curious. I ſhall here conclude all that I have to ſay upon that Head, with this Advice to thoſe whoſe Opportunities will permit them to try the Experiment, that there cannot be a more advantageous nor profitable Undertaking ſet on Foot, than the planting of Vine-yards, if carefully manag'd according to the Method and Directions herein preſcrib'd, nor any that will return ſuch an immenſe Profit.

It is reported of *Solon*, the *Meleſian* Philoſopher, that he only, by his Natural Skill, and Obſervations of the Temperatures of the Climate, perceiving the approaching Seaſon to be a very unſeaſonable One, inſomuch that he apprehended the Fruit of the Olive Trees would be deſtroy'd thereby, which muſt naturally enhanſe the Price of that Commodity; he took the Advantage of the plentiful Seaſon to purchaſe and contract for ſuch Quantities, as were to be had at a very low Price. When the approaching Seaſon proving according to his Expectation a very unſeaſonable One, the Price of that Commodity was ſo much enhans'd, that as his fore-ſight gave him the Reputation of being the wiſeſt Man, the Conſequence of his Bargain render'd him the richeſt Man amongſt the *Mileſians*.

And if ſo eaſy a Matter as that was capable of giving ſo much Advantage and Reputation to any Perſon how much more in the Affair before treated of, might it not be as eaſy for thoſe Perſons, whoſe Circumſtances would admit them to put in Practice what is before preſcrib'd, to purchaſe to themſelves immenſe Fortunes, by timely embraceing the Opportunity, and an early Application to the Methods here in before directed.

It was a receiv'd Opinion of our Anceſtors, that divers Plants grew of their own accord, without being ſown. They maintain'd, that divers Sorts were generated of the Earth and Water mix'd together; and that particular Countries were productive of divers Sorts of Plants and Vegetables. It was the Opinion of *Diogenes*, that Plants were generated from putrified Water and Earth. And *Theophraſtus* held, that the Rain, by cauſing much Putrifaction and Alteration in the Earth, was the Occaſion thereof, the Sun working upon it, by its Heat and quick Operation. So they reported, that in the Iſle of *Crete*, the Ground was of ſuch a Quality, as that, by only ſtiring it about, it would naturally produce a *Cypreſs* Tree. *Pliny* held, that the Waters falling from above, are the real Cauſe of every thing that grows upon the Earth, Nature therein ſhewing her admirable Works and Power. And ſome of the Antients have given us many Inſtances of their Experience of Earths fetch'd from divers Places, which being kept ſeparate, have produc'd divers Sorts of Herbs, Weeds, or Vegetables, without ſowing; whereby they would infer, that the Earth had naturally the Seeds of thoſe Vegetables in itſelf, or rather without Seed, was productive of, and prepar'd to put out ſuch particular Sorts.

Were we ſtrictly to examine into the Truth of theſe Relations, we ſhould be convinc'd of the Falacy of the Aſſertion. I will not deny, but that Earth may have been freſh dug out of a Pit, which being laid ſeparate from any other, may have produc'd divers Sorts of Vegetables, without ſowing; but might not theſe Seeds, which produc'd theſe Vegetables be, by ſome Accident, ſcatter'd in the Earth before, there are ſome Seeds of ſuch a hardy Nature, that they will retain their Virtue many Years; and if, by any Accident, they ſhould be buried in the Earth ſo deep, that they could not have the Benefit of the Air, Rains, &c. to enliven them, and cauſe them to ſhoot, they muſt rot and periſh for want thereof, unleſs their Nature is ſo ſtrong as to prevent their decaying.

An Inſtance we ſee daily in Muſtard, and ſeveral Sorts of Garden-Seeds, which being ſown, ſome of it ſhall continue in the Ground, altho' expos'd to the Wind, Rain, and Sun, for many Years before it will ſhoot, even till the ſame Ground has been dug and turn'd ſeveral times over, the unctious Quality thereof, preventing its decay; how much more then may it be preſerv'd, if the ſame be buried at ſuch a Diſtance in the Earth, as not to be expos'd to, or affected, by the Inclemency of the Weather.

Admitting it therefore, as an undeniable Maxim, that all Vegetables, Plants, and Trees, had their Originals, from whence they ſprung, agreeable to what the Scripture teacheth us, that God created every Tree and every Herb of the Field. We are not to expect that the Earth will daily put forth new and freſh Species of its own accord, unknown to ourſelves, or our Anceſtors.

ART may indeed aſſiſt, and in many Inſtances improve Nature, as we daily ſee in the numberleſs Experiments that have been, and are daily produc'd in the Planting, Grafting, and Pruning of Trees; by which, almoſt a new Species are daily produc'd. *Diodoris* tells us, that, at firſt, the Vines were but of one Sort, and that originally Wild; but now, by the various Improvements that have been made in Planting, tranſplanting into various Soils, by Buding, Grafting, Inoculating, and Intermixing, there are ſo great Variety, that it were an endleſs Labour to pretend to enumerate them all. So Nature originally brought but forth one kind of Pear; but how many various Sorts has Art ſince midwifed into the World. The continual Improvements ſtill adding to their numberleſs Sorts; and honouring the Proprietors, by bearing their Names, ſhews us the time we are to look back for their Origine. Amongſt the *Romans*, the Pears called *Decumana* and *Dollabelliana*, from *Decumius* and *Dollabella*, were Famous; ſo were the Figs of *Livy* and *Pompey*; nor leſs Famous were the many kind of Quinces; ſome of which, from the Improvement added, by *Marius*, were called *Mariana*; others from *Manlius*, *Manliana*; from *Appius*, *Appiana*; from *Claudius*, *Claudiana*; and from *Ceſtius*, *Ceſtiana*; with Thouſands of other Sorts, which later time hath produc'd, whoſe Variety have render'd the Authors Names Immortal. *Pliny* tells us, the Laurel and Cherries were not produc'd before his Time. And *Athenius* tells us, that in the Days of *Theophraſtus*, the *Citrons* were too Sharp to be eaten, but by the Culture and

Improvement of *Palladius*, they were render'd Sweet and Pleaſant.

Nor have we in this Country been of late Years ſhort of the antient *Romans*, in our Improvements of all Sorts of Fruit. The Variety of Apples, Pears, Plumbs, Peaches, Apricots, Nectarines, and Quinces, which were not known, nor heard of before Yeſterday, in Compariſon, are Inſtances of the Advancement made daily in the Art of Agriculture, and Husbandry. Yet can we not ſuppoſe, that this Art is arriv'd at the higheſt Perfection? There are Numberleſs more Improvements which might be made, and of much greater Benefit than thoſe hitherto practiſed, the Art of Buding, Grafting, and Inoculating, comparitively, being but yet in its Infancy.

As to the Manner of Grafting, Buding, and Inoculating, I need ſay little, the common Practice being ſo well known, that it would be in vain to pretend to mention it, or direct the doing of what almoſt every Child knows.

But ſhall mention an Improvement which would be of great Service in that Art, which is, that if our Gardiners and Nurſery-Men, inſtead of covering the Head of their Stalk, on which they graft, with Loom, would bind it up with a Sea-Onion, they would find it would ſucceed much better; becauſe that being of a fat, glutinous Conſiſtence, binds very ſtrongly, and at the ſame time feeds and cheriſhes the Graft, and defends the Stock from any Inclemency of the Weather.

THE Grafting of Vines was a Practice formerly very much in Uſe, by Terebration; and is mention'd by *Virgil* in his *Georgicks*, which was attended with very good Succeſs, to their great Improvement. Fruit-Grafting in Plants, being the ſame that Copulation is in living Creatures. There are indeed other Ways of raiſing the ſeveral Species of Fruit, but the common Way of Grafting, being the moſt ready, and which ſooneſt produces its Effects, is moſt practiſed, becauſe it is a ſure Way of incorporating one Fruit into another.

BUT in this Practice the Ingenious or Curious are not to be diſcouraged, by the Ignorance of thoſe Pretenders, who will aſſert, there can be no other Improvements diſcover'd, more than is in daily Practice. There are Numbers of indolent Wretches, who tho' they may be skill'd in the practical Part of Grafting, according to the common Method, yet are ſo dull as never to offer at the eaſieſt Improvement whatſoever.

LET the following Rules be obſerv'd in Grafting, and an ingenious Perſon may produce a numberleſs Variety of new and uncommon Fruits.

FIRST ſee that the Tree, from which you would Ingraft, be with reſpect to the Bark of the like Nature as the Stock; that is, if the Graft be of a moiſt Nature, the Stock muſt be ſo too; but if the Stock be hard and dry, the Graft muſt be ſo likewiſe; otherwiſe, the Graft requiring more Nouriſhment than the Stock can yield, it will languiſh and die; on the Contrary, if the Stock be too moiſt, and the Graft too dry, the Stock will throw up its Juices ſo faſt, as either to choak the Graft, or to branch out below it, ſo ſhall your Fruit be ſpoil'd and good for nothing.

You muſt obſerve, that the Grafting is to be made in the beſt and firmeſt Part of the Stock; where there is neither Knots, Scabs, nor Tumours, nor has been blaſted, but chuſe ſuch Stocks as are young and vigorous, and like to bear the Weather.

Your Grafts muſt likewiſe be taken from the youngeſt, beſt, and moſt promiſing Trees, and from the Eaſtern or Sunny Side thereof, thoſe being the moſt vigorous and lively, and bearing the beſt Fruit.

For obſerve, that if you take your Shoots from old Trees, they will not have Strength enough to draw their Nouriſhment from the Stocks; ſo likewiſe, if your Stocks be old, and your Grafts young, they will very rarely unite or come to Perfection. What will be moſt agreeable, is, that your Shoots and Stocks be as near as poſſible of an Age, the Shoots of the ſecond Year are beſt for Grafting, and ſhould be taken from the Tree, juſt when they are beginning to bud, and before they have born any Fruit.

In Grafting, this is carefully to be obſerv'd, that the Loom or Glew, which is bound upon the Head of the Stock, be carefully laid on; for if the ſame be looſe, and chop, or peel off, ſo that the Wound upon the Stock, or the joyning of the Graft thereto, be expos'd to the Weather, the ſame will fade and die away.

What is commonly uſed, by our Gardiners and Nurſery Men, for this Purpoſe, is a kind of clayie Loom, which they temper up for their Uſe, and frequently bind the ſame on, with Cloths or Paper, to prevent its falling off. This is always ready at hand, and therefore prefer'd; becauſe to be had without any Trouble, and from its frequent Uſe, is, by moſt, believ'd to be the only Compoſition or Mixture for this Uſe. But were the Practice of the Antients examined into, it would be found they had recourſe to much better Methods.

For from the Barks and Rines of Trees they drew a clammey, unctious Matter, much better and fitter for this Purpoſe, which not only anſwer'd the Ends, but fed and nouriſhed the Graft, and heal'd the Stock, whilſt, at the ſame time, it either dulcified or harden'd the Fruit, according as the Matter it was compos'd of.

This Preparation was made in the following Manner. They took a Quantity of the Rines of Hollies; and having made a Hole in a moiſt Place, in the Ground, they threw the ſame in there, covering them over to keep out the Rain; and letting them lye thus for the Space of about twelve Days, in which time they would putrify, and being then beat together, would become a ſort of a clammey Conſiſtence, or the common Bird-Lime, will do the ſame, when binding your Graft to your Stock with this, the ſame if you bud inſtead of graft, will cheriſh the ſame.

But a Preparation drawn from the Rines of Elm-Tree Roots, in this Manner, is the beſt and fitteſt for this Uſe, as being the greateſt Nouriſher, and hath a ſpecial Quality in it to feed and cheriſh both the Stock and Graft.

If inſtead of laying your Rines or Barks in a Pit, you lay the ſame upon a moiſt Cellar-Floor they will putrify, only they will require a little longer time.

The ſame may likewiſe be done with the Rines or Barks of other Trees; but let them be taken off from the Trees as near to the Roots as poſſible you can, for thoſe will bind the better; the Tops are too watery.

And this glewey Conſiſtence, drawn from Trees of the ſame Nature with thoſe you graft, is much the beſt, as being agreeable thereunto, and yeiling a great Supply of the richeſt Juices.

This would very much help and forward the Growth of any Trees, were the Bark or Rines ſtrip'd from your Cuttings, Lopings, or Trimmings, and buried at the Roots of thoſe Trees, you would improve; for the Juices being already concocted, yields a freſh and vigorous Supply of the fineſt and beſt Nouriſhment; and occaſions the Fruit to come in much greater Quantities and larger than it would otherwiſe.

Or if the Roots of the Trees be anointed with the prepar'd Conſiſtence, as before directed, it will occaſion their Bearing, in a very extraordinary and plentiful Manner.

Having given theſe general Directions to be obſerv'd in Grafting, I ſhall now proceed to mention ſeveral curious Experiments both antient and Modern for improving of Trees, and producing a new Variety of Fruit, whereby our Orchards and Gardens ſhall exceed even thoſe of the *Heſperides*, *Alcinus*, *Semiramis*, or *Memphis*.

It is the common Practice of our Gardiners and Nurſery-Men to graft their Fruit-Trees upon Crab-Tree Stocks, Black-Cherry Stocks, and ſuch like; The reaſon they give for ſo doing, is, that thoſe Stocks being more hardy, are better able to endure the Weather, and the Graft being inoculated into them, takes the more kindly theſe Juices, it draws thro' the Stock, being fitter and more prepar'd for its Nouriſhment, than if drawn directly from the Earth.

And ſay they likewiſe, if we ſow or plant the Seed or Fruit of the ſame Species, we deſire to have, the Produce will degenerate; and inſtead of Apples, we ſhall only have Wildings, and ſo of any other Sorts.

Again, that could the Seed produce Fruit equal in Goodneſs, to what is ſown and planted, the Trees would not be ſo durable and laſting.

Each of thoſe Objections, I ſhall in ſome Meaſure admit, notwithſtanding which, ſhall decry the common Practice, as diſagreeable to Prudence, and endeavour to ſupport my Aſſertions by the ſtrongeſt Arguments and Reaſons.

When our Nurſery-Men would raiſe a Quantity of Stocks for grafting upon, they ſow the Seeds of Crabs, Quinces, or the Stones of Black Cherries, &c. and that theſe will bear Fruit of the like Species, is certain; but the ſame ſhall however be even more Acid, Tart, and Hard, than that of the Parent Tree from whence the Seed came, if the ſame be ſuffer'd to bear without grafting.

Now if inſtead of the Seeds of Crabs, Quinces, Black-Cherry-Stones, *&c.* of a worſer Species than the Fruit we deſire to procure, they would ſow the Seeds of the Codling Tree, or other Fruit of the Species and Goodneſs, they are deſirous to procure or preſerve, they will by Experience find, that ſuch Fruit as theſe Stocks thus rais'd ſhall produce without Grafting, will be more kind, mellow, and racy, than the Crabs, *&c.*

I Readily admit they do not come up to the Goodneſs of their Original; but the Method to improve the ſame, is thus.

When theſe Stocks are grown to any Bigneſs, fit to be tranſplanted, let them be removed into a better Soil, if poſſible; at leaſt let them be cultivated with as much Care as you can, till they are fit for grafting, when at the proper Seaſon let them be carefully inoculated with the choiceſt Fruit or Grafts you can procure, of the Species you would have; and with a little Pains and Care in the Management thereof, you will find, by Experience, that the Fruit which is produc'd from theſe Stocks thus grafted, will be far preferable to any which you could have produc'd in the common Manner, even to excel that of the Tree from whence the Grafts were taken.

For is it not abſurd to ſuppoſe the Fruit muſt not in ſome Meaſure partake of Nature of both Parents of the tart, acid Flavour of the Crab-ſtock, Crab-ſtock, as well as of the more improv'd and preferable Taſt of the Apple, &c.

If an *Europian* Woman match with an *African*, common Experience ſhews us, their Offspring are a mottled Production of what we call Tawnies or Molettoes, and muſt we not expect the ſame in Fruit, or any other mix'd Production.

As to the Objection, that the Trees thus grafted are not ſo hardy to endure the Weather, that is altogether Groundleſs. This indeed I admit, they may not, perhaps, laſt altogether ſo long as thoſe that are grafted on a Baſtard-Stock; but that Diſadvantage is ſufficiently recompenc'd, by the extraordinary Goodneſs of the Fruit, and the Quantity produc'd, as being a more free Nouriſher, and of a more prolific Nature.

An Experiment has been try'd with unexpected Succeſs, by grafting upon one of theſe Stocks. And when the Graft has been grown to a Bigneſs proportionable to bear it, by regrafting it again or grafting upon the Graft; and the Fruit produc'd thereby has been of a ſurprizing Goodneſs and Flavour, and far exceeding any other Sort.

These Methods I would adviſe to obſerve in the raiſing of Stocks and Grafting.

Firſt, That the Stocks ſhould be raiſed from the natural Seed of the Fruit I would procure, and not from any baſtard or baſer Sort.

Secondly, That of ſuch Fruits as are choice, and would bear ſliping, I would raiſe a ſufficient

Quantity of Stocks from the Slips, and when of a Growth ſufficient, to graft upon them.

Thirdly, To tranſplant the Stocks before they are grafted, into a better Soil, if it may be, and beſtow a little Tillage upon them; for the digging and turning of the Earth about the Roots improves them very much, as it ſupplies them with new and freſh Juices, and permits the rank and offenſive ones to evaporate, which muſt otherwiſe be drawn into the Trees to the prejudice of the Fruit.

Fourthly, AFTER your Stocks have been thus carefully rais'd, managed, and tranſplanted, then inoculate thereon the choiſeſt Grafts from the beſt Fruit Trees you can procure. See that the ſame be not too old; and that they be well inoculated: And if inſtead of plaiſtering them up with Loom in the common Manner, you bind on the ſame with ſome glutinous Conſiſtence, prepar'd from the Bark, Rines, or Pillings of ſome old Trees, Branches, or Loppings of the like Species, with the Grafts and Stocks you inoculate upon, as is before directed, you will find it will have an extraordinary Effect, and ſucceed beyond Expectation.

LET the Stock you graft upon, be of a very prolifick Nature, ſuch as is the Codling; for the more prolifick it is, the greater Quantity of Juices it will throw up to the Graft: Beſides the Codling is a very forward Fruit, and ſoon ripe, and the propereſt to graft upon, for *Summer* Fruit eſpecially; for the prolifick Nature thereof haſtens and accelerates the Growth of whatever Sorts ſhall be grafted thereon.

If you would have your Fruit of the ſame Species later than ordinary, graft upon the Stocks rais'd upon the *Winter* Queening, the *Winter* Pippen, or ſuch other latter ſort of Fruit.

If you chuſe to have it at the uſual Seaſon, then graft upon the natural Stock, rais'd from Seeds of the ſame Species with thoſe you would procure.

Thus may you on ſeveral Trees keep Fruit of the ſame Species, and have it ripe and fit for the Tooth, for ſeveral Months together.

Also you may alter your Fruit as much as you pleaſe, by grafting, inoculating, or buding upon divers Sorts of Stocks; or by compounding your Grafts of ſeveral Sorts, whereby as well the Colour as the Smell, and Taſt will be chang'd.

The Fig-Tree may be grafted into the Mulberry-Tree; ſo on the contrary may the Mulberry be grafted into the Fig-Tree, and the Fruit will be variable.

Also if you graft the Mulberry or the Fig-Tree into the Cheſs-Nut-Tree, or the Turpentine-Tree. And 'tis ſaid, by ſeveral of the Antients, that if you graft either the Mulberry or Fig Tree into the White Popler, it will take very kindly, and produce White Figs, or White Mulberies.

In the ſame Manner likewiſe the Cheſt-nut or the Hazel may be grafted into the Oak.

And the Pomgranet may be grafted into any other ſort of Tree; for its Nature is ſuch, that it will take upon any kind whatſoever.

The Ingrafting, Inoculating, or Buding of Fruit, improves the ſame; ſo does the frequent ſhifting and removing of the Trees, and diging about their Roots: Alſo the opening the ſame, and burying Blood, Lees of Wine, rotten Graſs, Weeds, Chaff, and any ſort of Vegetables; for the nitrous Particles drawn therefrom, wonderfully cheriſhes, ſtrengthens, and invigorates the ſame, and rectifies the more crude Juices of the Earth.

An Experiment has been ſucceſsfully try'd to raiſe Stocks without ſowing the Seed; and which anſwers Expectation much better, and is perform'd in the following Manner.

Take a low Tree of any Sort that you deſire to propate, whether it be a Cherry's, Apricot's, Peach's, Nectrine's, Cornelian's, Mulberry's, Figs, Vines, Roſes, or any other Sort, open the Root, ſo that you may bow down the Tree to the Ground; having firſt hollow'd the ſame conveniently to receive it, ſpread the Branches on the Earth ſingly, and the Twigs likewiſe cover the whole with freſh Mold, leaving the Tips of the Twigs only to peep out. Thus let them lye for ſome time, every Twig will ſhoot out Roots and Fibres into the Earth, and take Root there, let them continue for ſome time until they grow to Maturity, fit to tranſplant; then cut them off and plant them out for Stocks, they will proſper very well.

These Stocks thus rais'd will bear very well without grafting; yet if you afterwards graft them they will produce much richer and finer; and are much better than Stocks rais'd in the common Way, tho' grafted ever ſo carefully.

Francis Lord *Verulum*, teacheth us in his *Natural Hiſtory*, a ready Method, whereby in one Year's time we way procure a Fruit-Tree capable of bearing good Fruit; which he directs to be done in this Manner.

CHUSE, ſays he, *in* May, June, *or* July, *a fair, promiſing, fruitful Tree, and ſelect one Arm, ſuch as you beſt approve of, about three or four Inches in Circumference; cut the Bark round, near the Bottom of the Branch, and take it off for about four Inches in length, quite round; then having in Readineſs a Quantity of Loom and Horſe-dung, well mix'd and temper'd together, cover the Place with a Coat thereof, quite over; as alſo ſome little Part of the Bark, both above and below the bare Place; (or if you mix the Loom with ſome Sea-Onions, well beat or bruiſ'd in a Mortar, will be yet better) bind on the ſame with a courſe Cloth, as cloſe as you can to prevent its falling off, or cracking, letting it ſo continue, till about* Alhallontide; *at which time you may cut it off, thro' the Place which was bark'd, and ſet it in the Earth, it will in one Year produce a fine young Tree, and bear Fruit according to yonr deſire.*

It is the common Practice of our Gardiners and Nurſery-Men to cut off the Trees they graft below the Head, and to inoculate upon the main Stock. But if inſtead of that Cuſtom they would take off the Branches juſt above the Head, and graft upon the remaining Part of the Stock of each Branch, they would find their Fruit equally as good, and it would be produc'd in much greater Quantities.

But the moſt curious Way would be this: Chuſe one of the beſt Stocks, rais'd from ſome choiſe Tree itſelf; when it is fit to graft, take off the Head, inoculate the Stock with the fineſt Graft you can procure; or for Variety, if you mix the Graft, by ſliting or gently bruiſing the ſame, as has been before directed, in reſpect to Vines, and joyning it to another Graft, ſlit or bruiſed in the ſame Manner, of ſome choice Fruit of any other Species. Suppoſe the one were a *Summer* Pippen, and the other a *Burgundy* Pear, or any other Sorts, and carefully joyning the ſame, inoculate them into the main Stock, bind them up carefully with the Sea-Onion bruis'd and temper'd up with Loom; when they have ſtood ſome time, and ſhot out ſeveral Shoots or Branches to a Maturity ſufficient, cut each of them off about ſix or ſeven Inches diſtant from the Head; inoculate them ſeverally again with the choiceſt Graft you can procure. And if, for Variety, your Grafts are all of different Sorts, your Satisfaction will be the greater to have many choice Sorts of Fruit from one and the ſame Tree.

In this Method you may produce *Katherine* Pears, *Burgundy* Pears, *Windſor* Pears; Codlings, Pippings, Queenings, and divers Sorts of Pears or Apples from one Tree.

So likewiſe may you have Peaches, Apricots, Nectrines, *Mogul* Plumbs, *Orleance* Plumbs, and divers other Sorts, upon the ſame Tree.

And *Palladius* tells us, that Trees are join'd together, as it were by carnal Copulation, to the end that the Fruit thereof may contain in it all the Excellencies of both the Parents; and the ſame Trees are nouriſhed with two Sorts of Juices, and hath a double Reliſh, according to both the Kinds whereof it is compounded.

In the Inoculation 'tis proper to conſider, that the Grafts we would inoculate have their Barks of one and the ſame Nature, and are of equal Age and Growth, that they may the readier unite and join together; for if the one be hard and dry, and the other ſoft and moiſt, they cannot grow together.

From the Mixture of the Shoots and Grafts, as before deſcrib'd, 'tis very common in the Orchards in *Naples* to ſee Fruits which are half Oranges and half Lemons. Alſo Lemons which are half Sweet and half Sower.

In the ſame Manner alſo they procure Peaches which are half White and half Red, by joining the Sprigs of two contrary Trees, and inoculating them into one Stock.

Also Roſes half Red and half White have been produc'd, by inoculating contrary Sprigs upon one Stock.

The ſame Experiment has been ſucceſsfully try'd in Flowers, particularly in Clove-Gilliflowers, with this Difference, that inſtead of grafting they take the Roots of two ſeveral Sorts, the one White, the other Red, and cleaving them carefully thro' the Middle, join the contrary Parts together, and bind them up with ſome fat Loom and Earth, or Sea-Onions, and plant them again, they will produce Flowers, one Side White, the other Red.

THEOPHRASTUS alſo teaches us another Way anſwerable to this, of grafting of compound Fruit, which is in this Manner.

TAKE, ſays he, *ſeveral young Slips of divers Sorts of Pomgranets, bruiſe them well with a Beetle, until they will ſtick and hang together; then bind them up as cloſe as poſſibly you can; and if you have join'd them carefully, without breaking them, they will unite and grow into one Stem, and bear Fruits of various Sorts; but each will in ſome Meaſure partake of the Nature of the other.*

Cherries have ſometimes been produc'd from a Willow Tree; ſo alſo has a Bay grown out of a Cherry-Tree, and the Fruit of each has been party coloured.

The occaſion of theſe Productions has been purely accidental, and not deſignedly; notwithſtanding which 'tis very reaſonable to believe, that if the ſame is to be produc'd by Accident, it may by Art be as well affected.

The Manner of producing them, was only from the Birds, who having greedily ſwallow'd the Seeds of divers Fruits, and voiding the ſame with their Excrements, before they were digeſted, into the hollow Chinks and Holes of Trees, where ſome Quantities of Duſt had before ſettled; the Rain afterwards falling therein, and moiſtening the ſame, occaſion'd them to ſhoot forth; ſo that in time, as they increas'd in Magnitude, they have incorporated, and grown into the Tree.

I Have myſelf, for Experiment ſake, taken a young Gooſeberry-Buſh; and after trimming the Root, made a Hole, with a ſharp Stick, in the hollow rotten Part of a Pippen-Tree which was decay'd by the Weather, where the Arm had ſome time before been lop'd off, and thruſting the Root of the Gooſeberry-Buſh in the Hole, afterwards plaiſter'd it up with Loom, till it ſettled; and it has liv'd there, and afterwards bore Gooſeberries, tho' ſmaller than it uſually did before, whilſt the Tree has born its natural Fruit.

The Occaſion of the Smallneſs of its Fruit, I take to proceed from this: That the Juices of the natural Tree, being of a Nature different from the Gooſeberry, and the Gooſeberry being alſo a very great Drawer, the Tree yeilded not ſo great a Quantity of the proper Juices for its Support, as the Earth would have done, eſpecially at firſt, the Contrariety of Nouriſhment yeilded by the one, and required by the other being ſo vaſtly different, that till, by incorporating, there grew a better Harmony betwixt them. The

Fruit of the Goosberry muſt be ſmaller, and in leſs Quantities than otherwiſe; tho' by Continuance of time there would grow a better Reconciliation and Harmony betwixt them; when the Goosberry would thrive better, and grow larger, and in ſome Meaſure vary in its Taſt from what it naturally had before.

PONTANUS directs the raiſing of compound Trees or Stocks in this Manner: *Take*, ſays he, *Seeds of ſeveral Sorts, ſow them in a Pitcher, or ſuch like Veſſel; let them continue there, until they are grown up, which as they do, gently twiſt and bind the young Shoots together, and let them be cloſe tyed, bind them well with Loom, or glutinous Matter, that may help them to incorporate. By this Means they will unite into one Stock, and be cover'd with the ſame Bark, and the Fruit will be variouſly reliſhed.*

THE Reaſon of the ſame muſt be, that the twiſting the young Shoots bruiſes the Barks or Rines, which occaſions the Juices to incorporate, and the binding them up keeps them from ſeparating by the Wind, or any other Accident, until they are firmly united, by this Means a Mixture of the Juices is occaſion'd, tho' in ſome Parts more, in others leſs; according as the ſame have mix'd in twiſting.

THEOPHRASTUS, and ſeveral of the Antients likewiſe, direct the ſame to be done, by ſowing various Sorts of Seeds together, and uniting them in the ſame Manner, affirm, they have practiſed the Method with Succeſs.

JOHANNES Baptiſta Porta affirms to have rais'd a compound Fruit of the Damſin and Orange, or Lemon, which has participated of both Kinds, which was rais'd in the foregoing Manner.

Alſo he affirms to have rais'd Damſins compounded of two Sorts, by chooſing two young Trees of different Kinds, which growing cloſe together, he pared off the Barks to the undermoſt Skin, for the Depth of ſix or ſeven Inches, near the Heads; then twiſting them round each other ſo that they touch'd in the Places where the Bark had been taken off; after which he bound them tight together with the Film or Rine of the Elm-Tree to prevent their parting; after this he removed the Earth from about their Roots, and cover'd them with good Mold and Dung, to ſtrengthen and nouriſh them the better; often watering them, within the Space of a few Years they were firmly grown together, as if they had naturally ſo done; then he cut off the Tops, in the Place where they ſeem'd to be moſt firmly united; after which there ſhot out from the Head many young Shoot; of which, thoſe that he perceived to come from both Trees he let ſtand, the others he cut off; and by this Means procured Fruit according to his deſire.

HAD he ſuffer'd all the Shoots to grow, the Fruit would have been various, theſe Branches which appear'd to be ſhot out from both Stocks, would have partook of the Nature of each; but thoſe which had ſhot from the Sides, would have participated of the Nature of its original Parent.

We have before deſcrib'd the Manner of the Antients, raiſing the Fruit called *Elæo-ſtaphylus*, or the Olive-Grape, by ingrafting the Olive-Tree into the Vine, and ſhall here add what *Florentius* ſays will cauſe a Vine to bear both Olives and Grapes at the ſame time. *If*, ſays he, *you bore a Hole thro' the Stock of a Vine near the Ground, and draw thro' the ſame the Branch of an adjoining Olive-Tree, plaiſtering it up therein, but without cutting it of from the Root, ſo that it may unite with the Vines; from whence it will receive Sweetneſs, as well as Fatneſs, from its natural Root; the Fruit will taſt pleaſantly; and it will produce, not only Cluſters of Grapes, but Olives alſo. And if the Vine were young before you bor'd it, and had not born Fruit, the Sprigs afterwards taken from it, and planted, will produce the* Elæoſtaphylus, *or Olive-Grape.*

The Mirtle-Vine ſhould be rais'd in the ſame Manner, by Terebration, if you would have your Vine both bear Grapes and Mirtleberries.

There is alſo a Way to raiſe a compound Fruit, called by the Antients, *Nuci-pruna* or Nut-Damſins, which is reported by *Pliny* to be rais'd, by ingrafting the Damſin into the Filbert or Nut-Tree. And that it is peculiar to this Fruit only that it ſhall be in Colour like unto Damſins, but in Taſt like Nuts.

PLINY tells us, the like may be done by ingrafting the Damſin into the Sweet-Almond-Tree, which will produce a Fruit like Damſins, but having the Taſt of ſweet Almonds.

PLINY alſo tells us of a Fruit, amongſt the *Spaniards*, called *Malina*, which is a compound, produc'd, by grafting a Damſin-Tree into an Apple-Tree, the Fruit whereof is outwardly like a Damſin, but has the Taſt of an Apple.

THERE is a Fruit, common in *Syria* and *Egypt*, by ſome called *Sebeſten*, by others *Mixa*; which is a Sort of Damſin, having, a ſweet Almond for its Kernel. This Fruit in the time of *Pliny* was common in *Italy*, and as ſuch is mention'd by him, tho' the Species is now loſt there, probably for want of Culture.

THIS Fruit he mentions, as uſual, to be grafted into the Service-Tree, which render'd the Fruit the pleaſanter. The occaſion probably proceeded from this: That the Kernel of itſelf being too moiſt and ſweet, occaſion'd the Eaters to be laxative. Whereas, by being incorporated with the Service or Medler, it became more aſtringent.

JOHANNES Baptiſta Porta, after having decry'd many Things aſſerted by *Pliny*, and others of the Antients, tells us as of his own Experience, that if we will take the Bud of a Peach-Tree, and carefully join it to the Bud of an Almond-Tree, grafting it thereto: Or if we take the Bud of a Peach Tree, and likewiſe the Bud of an Almond-Tree, and join them carefully together; then graft them into a third Tree, or upon another Stock, they will bear a compound Fruit, which participates both of the Nature of the Peach and the Almond, and partake of the Nature of both Parents; outwardly it reſembles a Peach both in Shape and Colour; but inwardly it hath a ſweet Almond for a Kernel; ſo doth the Tree itſelf likewiſe, reſemble the Peach as well as the Almond.

SO, ſays he, *if you join a Bud of a third Sort of Fruit to the others, the Product will be a triple Compound, and partake of the Nature of each Sort.*

IN the ſame Manner, by joining the Bud of a Lemon to the Bud of Citron, has a compound Fruit been produc'd ſavouring, as well of a Citron as of a Lemon.

AMONGST the many Experiments which have been ſuccesfully try'd, none is more delightful, as well as profitable, than that of frequent regrafting or grafting upon the grafted Stock. And as it may be acceptable to the Reader, and ſerve to illuſtrate my Intention, by ſhewing the Variety of Fruit which may be produc'd; I ſhall recite ſeveral Experiments, which have been practiſed formerly.

CORELIUS, a Nobleman of *Rome*, engrafted a Ches-Nut upon a Ches-Nut; and by that Means procured a fine large Fruit, much larger than the common Sort. This Fruit, in Honour of the Experiment, he called after his own Name, *Corelliana*. After which, his Heir, willing to improve upon him, inocculated a Graft of the ſame *Corelliana* into another Ches-Nut. The Conſequence whereof was, that the Product thereof was not quite ſo large as the *Corelliana*, but the Fruit was much improv'd thereby.

THE *Oxyacantha* or Barberry-Tree is ſuppos'd to be only a wild or baſtard Tuber; and Experiments have been try'd to improve the ſame, by frequent grafting it upon its own Stock; and the Succeſs has ſo far anſwer'd, that every grafting has improv'd the ſame, both in Size and Sweetneſs; whereby it was not queſtion'd by the Experiment of Grafting being continued upon the ſame Tree, the Barberry would in time produce Tubers.

The Peach-Nut was a Fruit formerly in Requeſt amongſt the *Italians*, and was produc'd by frequently grafting the Peach into the Nut-Tree, its outward Colour was greeniſh, excepting on the Side next the Sun, where it was of a brown, rediſh Complexion, not downy, but very ſmooth, and of a very pleaſant Taſt; the Stone within was rugged like a Peach-Stone, and the Kernel within that, reſembled a Nut in Taſt.

DIOPHANES try'd the Experiment of grafting an Apple upon a Citron-Tree, which he ſeveral times attempted inſucceſsfully; becauſe it withered as ſoon as it ſhot forth; however at laſt he effected it, and it bore a Fruit partaking both of the Citron and the Apple, which by a compound Name he called a Citron-Apple; and *Dydimus* adds, that it will bear Fruit almoſt all the Year.

The grafting of the Apple into the Quince-Tree was the Invention of *Anatolius* and *Diaphanes* and produc'd a Fruit which they nam'd *Melimela*. The *Athenians* called it *Melimelium*; and we call it a St. *John*'s Apple.

And *Pliny* ſays, by engrafting the natural Quince into the Quince-Pear a compound Fruit is produc'd which he call'd *Milvianum*, which is the only Quince fit to be eaten raw.

If a Pear be grafted into a Willow-Tree (but the grafting muſt not be into the main Stock, but betwixt the Bark and the Body) it will bear Fruit (provided it grow in a moiſt Place) but the ſame will be very backwards.

Observe this as a general Direction: If you would have your Fruit larger than ordinary, either graft upon Stocks of the ſame Species with your Grafts, or upon thoſe Stocks whoſe Fruits are naturally larger.

Any Fruit grafted upon its own Stock produces a Fruit larger than it would have born, without grafting.

Hence proceeds the Practice of grafting Pears upon Quince Stocks; but were the ſame re-grafted over again, they would improve both in Size and Goodneſs.

If the Medler be grafted into the Quince-Tree, the Fruit will grow extraordinary large; the like if it be grafted into the Codling-Tree, and the Fruit will alſo be the pleaſanter for it.

So, if the Mulberry be grafted into the Fig-Tree, the Fruit will vary ſomething in its Colour, and grow extraordinary large.

The frequent diging about the Roots of Apple-Trees cauſes them to bear better, and their Fruit to grow larger.

Also the ſame has been obſerv'd of Citrons in foreign Parts.

Likewiſe the frequent watering the Roots of Pear-Trees, Quince-Trees, Peaches, and Apricot-Trees, occaſions them to bear more plentifully, as well as the Fruit, to be much larger than otherwiſe, a proper Moiſter, being a great help to Vegitation.

'Tis a conſtant Obſervation, that thoſe Trees which have the hardeſt Pith, produce either Stone or Shell-Fruit, in Hardneſs proportionable thereunto.

Thus the Almond, the Filbert, the Peach, the Apricot, the Nectarine, the Plumb-Tree, have all hard Piths; the Apple, the Pear, the Pomgranet, the Vine, the Mulberry, and divers other Sorts, have Piths, but not ſo hard, therefore the Kernels are ſoft. There are others which produce neither Shell nor Kernel, as the Elder, *&c.* only an outward Skin, becauſe the Piths are very ſhort and ſoft.

Hence it is maniſeſt, that as the Juices aſſending, by the Pith, being more acid and crude than what aſſends otherwiſe, produces that Matter which forms the Stone, Shell, or Skin, of all Fruit; and if by any Art or Management the aſſending of the Sap, thro' the Pith can be prevented or reſtrain'd, the Fruit ſhall either be freed from that tough, thick Stone, or Shell, uſually contained within, or ſurounding ſuch Fruit. To this Purpoſe diver of the Antients have preſcribed Rules and Methods, deduc'd from their own Experience and

Obſervation for effecting thereof; many of which have nevertheleſs been decry'd and exploded by the Moderns, as abſurd and impracticable.

It would be unreaſonable to condemn thoſe who affirm the Practicableneſs of the Methods they have preſcrib'd from their own Experience, barely becauſe another has attempted the ſame, and fail'd in the Succeſs thereof. We ſee daily the moſt experienc'd Gardiner does not ſucceed in every attempt of Inoculating or Grafting, tho' in the moſt common Manner, and what every one ſo well knows how to effect.

Disappointments may frequently happen from ſeveral Cauſes; the Grafting may not be carefully perform'd; the or it may not be well join'd to the Stock; various Accidents of the Weather may happen, which may deſtroy the Graft before it is united there unto. But from any ſuch Miſchance, which ſometimes the moſt skillful Artiſt cannot avoid, it would be ridiculous to condemn the Practice of Inoculation, as impracticable, as the Cuſtom of divers of our Anceſtors has been, thro' the Miſcarriage of one ſingle Attempt, which may be owing to the Unskilfulneſs of the Artiſt; the Change of Climate; the Unfitneſs of the Soil; or various other Accidents.

DEMAGERON, *Paladius*, and divers of the Antients, ſay, that if a Hole be bored thro' the Heart of a Cherry-Tree, Plumb-Tree, Nut-Tree, Almond-Tree, Peach, Apricot, or Ches-Nut Tree, ſo that it part the Pith directly, and afterwards the ſame be fill'd up with a Wedge or Piece of Elm, Willow, or other Bough; and thereby prevent the Pith from uniting; and waxing up the Hole, ſo as to keep out the Rain from rotting or damaging the ſame; you ſhall have Cherries, Peaches, Apricots, Plumbs, without Stones; or Nuts, Almonds, &c. without Shells.

THIS is a Device natural enough, but is with Difficulty to be perform'd. Inſtead of a Stopper of Elm or Willow, I would chuſe one of the ſame Wood, with that which I try the Experiment upon, and that not taken from any old dead Tree; but from the Branches of ſome living one, and not cut out of the Heart thereof neither, but from one Side thereof; becauſe no Part of the Pith ſhould go into it. And likewiſe I would try the Experiment, by boring the main Stock below the Grafting, and alſo above the Grafting.

YET before this Method, I ſhould prefer that taught, by *Africanus*, *Paladius*, *Martial*, and divers others, which they direct in this Manner: Take, ſay they, a young Stock, about two Foot in Height; ſlit the ſame quite down to the Root, take the Pith clean out to the Bottom; *(and if you then clap in ſome Wedge, or other Matter, to prevent its again aſſending from the Root, will be proper)* join the two Sides together again, as ſpeedily and careſully as you can; *(and having in Readineſs ſome Sea-Onions beat in a Mortar, till they come to a ſort of an Ointment, fill up the Cavity therewith;)* and bind the ſame cloſe, with the inner Bark or Rine of the Elm-Tree, or ſome ſuch Matter; let the Root be cheriſhed with ſome ſtrengthening Nouriſhment, and it will ſoon unite and bear Fruit without Stones, or Shells, according to your Deſire.

It is allow'd, as an undeniable Maxim in Husbandry, that the dryer any Tree is kept, and the more barren the Soil, the tougher and harder is the Stones or Shells of its Fruit; it muſt therefore follow on the contrary, that all ſoft, fat, and moiſt Things, are not only proper for Nouriſhment, but likewiſe occaſions the Stones and Shells of ſuch Fruit to be leſs ſtony and hard.

If therefore we would ſoften and alter any Fruit, it would be good to apply to the Roots of the Trees Swines Dung, Lees of Wine, and ſuch-like Matters; for thoſe Things work very powerfully; and to let the Trees grow in as moiſt a Place as conveniently can be; for by an encreaſe of Moiſture the Shell Fruits will have larger Kernels and ſofter Shells; and likewiſe Stone-Fruit will have ſmaller and leſſer Stones; and the pulpy Part ſhall be the mellower and larger.

That the Bark of Trees yields a Nouriſhment to Shell-Fruit, is likewiſe demonſtrable. But *Damegaron* tells us of a Method, whereby the Effect thereof may in a great Meaſure be prevented; and that is, by opening the Roots of the Trees, and burying Aſhes, which will abſorbe and draw out of the Bark, and drink up the crude Juices which occaſions the Shell.

PALLADIUS directs us to water the Roots of the Tree three times a Month, yearly, with Lye, made of Wood-Aſhes; which will anſwer the ſame Purpoſe. This, he tells us, will produce the Nut commonly call'd *Nux-Tarentina*, or the Tarentine-Nut. And *Johannes Baptiſta Porta* tells us, that by practiſing the like Experiment, he had growing in his own Orchard of theſe Tarentine-Nuts; the Shells whereof were ſo thin and ſoft, that the ſame was no more than a thin Skin, which crumbled off as ſoon as it was touch'd.

COLUMELLA ſays, a Tarentine Nut, or a Nut without a Shell, may be rais'd in this Manner: Take a Root of Fenel-Gyant, ſet it in a Pit ſix or eight Inches deep, where you intend your Tree to grow; cleave the Fenel to the Root, and in the Pith thereof clap the Kernel of a Filbert; but ſee the ſame be ſound, not bruiſed, or decay'd; then bind up the Fenel gently, and cover it in the Earth, it will in time produce a Tree, which will bear Nuts without any Shell.

THE Reaſon of incloſing the Kernel within the Pith of the Fernels, is two fold.

Firſt, To prevent the Vermine from eating it. And,

Secondly, To ſupport the ſame by moderate Warmth and Moiſture, until it is duly concocted, and fit to ſhoot forth into Branches, when it will force its Way, and take Root accordingly.

DIOPHANES, *Dydimus*, and *Palladius* affirm, That if Apples be grafted into the Plane-Tree they will grow red. Alſo

AVICENA ſays, if we engraft Citrons or Lemons into a Pomgranet-Tree they will be Scarlet. And

FLORENTINUS bid us engraft them into a Mulberry-Tree, if we would have them of a Blood-Red Colour.

TARENTIUS and *Diophanes* both affirm, that if Pears are grafted into the Mulberry-Tree, they will be of a Blood-Red Colour. And,

DIOPHANES adds, that if Figs be grafted into the Mulberry-Tree, they will become Red; but that the Mulberry, which occaſions all other Fruits, which are grafted into it, to become Red, will itſelf become White, if it be grafted into the White Poplar-Tree.

AND *Palladius* affirms the ſame, if it be grafted into the Fig-Tree.

JOHANNES Baptiſta Porta, in his third Book of *Natural Magick*, relateth a very pleaſant Deviſe of his own Knowledge, which, he ſays, he had often ſeen, and called it the Tree of Dainties. And altho' it was invented only for Pleaſure, yet the Variety thereof ſhews many Things which are practicable, and likewiſe uſeful. I ſhall chuſe to repeat it in his own Words.

THIS Tree was of a goodly Height and Thickneſs, being planted in a Veſſel fit for the Purpoſe (and removeable at Pleaſure) the Mould about it was of a very fat, moiſt, and fruitful Nature (as Neceſſity required to yield Nouriſhment to ſuch Variety of Fruits as was there produc'd;) ſo that as well by the Livelineſs and Strength of the Plant itſelf; as alſo by the Moiſtneſs and Thriſtineſs of the Ground, all Things that were engrafted into it re-

ceived ſufficient Nouriſhment. It had three Branches or Arms; one of which bore various Sorts of Grapes, without any Kernels in them, party colour'd; ſome of them were medicinable and good to procure Sleep; others occaſion'd the Eaters to be laxative; and others again were pleaſant to the Taſt. The ſecond Branch or Arm bore a Peach, of a midling Size, different both from the ordinary Peach and the Peach Nut, without any Stone in it, bearing in ſome Places Peaches, in others Peach-Nuts; and if in any of them there was any Stone, it was generally as ſweet as an Almond. On the third Branch or Arm grew Cherries, without any Stones in them; ſome of which were Sweet and others Sower; and alſo Oranges of the like Flavour and Reliſh. From the Bark of this Tree grew out ſeveral Sorts of Flowers, Roſes, &c. the Fruits were all of them larger then ordinary, and ſweeter both in Smell and Taſt, flouriſhing chiefly in the Spring time, they hung upon the Tree, growing after their natural Seaſon was paſt; and there was a continual Succeſſion of one Fruit after another, even all the Year long, by certain Degrees; ſo that when one was ripe, there was another buding forth, the Branches being never empty, but ſtill cloged with ſome Fruit or other. And the Temperateneſs of the Air ſerved every turn ſo well, that I never beheld a more pleaſant and delightful Sight.

THE Method by which this was done, was by chuſing out ſome fit Tree, with as many Branches as was thought proper, and inoculating ſeveral Sorts of Fruits thereon; which Shoots, as they branch'd out again, were diverſly inoculated with different Species of Fruit, according to what they had a fancy to produce, by the ſeveral Ways before directed. As to the Method of producing the Flowers from the Body of the Tree, it was effected in this Manner, by gently opening the outward Bark of the Stock, and letting into it the Roots of ſeveral different Sorts; which being ſupply'd with Nouriſhment from the Tree, occaſion'd them to ſhoot out and bear, as before deſcrib'd.

This Inſtance may be ſufficient to evince what may be affected by Induſtry and Pains; and if it were poſſible to raiſe ſo many different Sorts upon one and the ſame Tree, it would be much more practicable to raiſe one, two, or three Sorts, or to compound them together, by the Methods before directed.

But if the Fruits are ſorted, they will agree much better, and the leſs Pains and Difficulty will ſerve to raiſe them.

Thus all Sort of Nuts may be grafted with Eaſe, upon one and the ſame Stock; and it would be pleaſant enough to behold the Hazle-Nut, the Filbert, the Ches-Nut, and Wall-Nut, growing upon different Parts of the ſame Tree; to which might likewiſe be added the Almond, and any other Sort of Shell Fruit.

The ſame alſo might be as ſucceſsfully practiſed in all Sorts of Stone Fruit, to have as many Sorts as there are Kinds upon one Tree. The Peach, the Nectrine, the Apricot, the Plumbs of various Sorts, as well as Cherries, upon which alſo might be attempted, the Date and the Olive.

It has been a received Opinion, that thoſe two laſt Fruits will not grow in *England*. But that I take to be altogether a chimerical Notion; and the Difficulty conſiſts only in raiſing the Plants at firſt.

We ſee the Mulberry is a tender Plant to raiſe; yet after ſome continuance, that it grows naturalized to the Soil, there are few more hardy. 'Tis the ſame of the Olive, which *Pliny*, *Virgil*, and others, tell us, will ſhoot out and flouriſh, if the dry, wither'd Sticks, or Branches thereof only be ſet into the Ground.

The only Difficulty conſiſts in the adapting them to fit and proper Soils; for daily Experience ſhews us, that the moſt common Plants and Vegetables will ſprout more kindly, and thrive much better in ſome Grounds than in others; and likewiſe that the Nature of the Earth cauſes a great variation in the Fruit.

Upon the Apple-Stock may be grafted all Sorts of Apples, Pears, and ſuch like Fruits; and were the Orange or Lemon grafted thereon, and protected from the Inclemency of the Weather, untill it has attain'd a proper Maturity, the Fruit would not be unpleaſant, and might in time be naturaliz'd to the Soil.

As to the Objection of theſe foreign Plants being unable to bear the Severity of our Seaſons, I readily admit, they are not, if we conſider them as newly imported; nor does the Method of keeping them in Green-houſes and Stoves very much mend that Defect; I mean of thoſe which are more common with us, as the Mirtle, Orange, Lemon, and others of the like kind.

I HAVE myſelf ſeen the Tamarine-Tree and the Almond-Tree growing near *London*, in open Gardens, to about Twenty-ſix or Twenty-ſeven Foot high, which have bore very kindly; but they were not Plants imported, but rais'd from the Fruit here in our own Soil; by which they became the better reconcil'd thereunto. I have likewiſe been inform'd, that Orange-Trees are growing in a Gentleman's Gardens at *Exeter*, in the natural Soil, and continue there without the help of the Green-houſe; nor do I ſee any ſufficient Reaſon to disbelieve the ſame.

IT may poſſibly be objected from the Experience of our Gardiners and Nurſery-Men, near *London*, that the Orange Plants, rais'd from Seed (which of late ſeveral have proceeded to raiſe in hot Beds, have been with a little Severity of the Weather, kill'd and deſtroy'd. The Objection I readily admit; but at the ſame time deny the Concluſion; for it will not from thence follow, that if thoſe Plants had been rightly manag'd till of a Maturity ſufficient to plant out into the open Air, they would then have died.

EXPERIENCE demonſtrates the contrary; and a little Obſervation will ſhew the Fallacy of the Aſſertion. Any Plants, whether Natives or Foreigners, if rais'd upon Hot-Beds, or kept pent up in Stoves, will be much tenderer than otherwiſe, even in the moſt common Fruit; were it only Apples or Pears; and when theſe, from their Production, have been for ſome time kept up from enjoying the Benefit of the Air, if they become ſuddenly expos'd thereto, they are thereby made liable to many Accidents from the Inclemency and Changeableneſs of the Weather, which they otherwiſe would not have been liable to.

For by the ſame Reaſon, that a Perſon confin'd in a Bagnio or Hot-Houſe for ſome time is more ſubject, and liable to receive and be effected by the Impreſſion of the Weather, if he were ſuddenly to be turn'd out into the Cold. So are theſe Plants, and as ſenſible of the Inclemency thereof; for does the Heat and Cloſeneſs of the Bagnio open the Pores of the Body, whereby it gives Admiſſion to the colder Particles of the open Air; ſo does theſe Hot-houſes, by rarifying the Air within them, relax and opens the Pores in the Barks and Rines of the Trees, whereby the Circulation of the Sap and Juices are haſten'd in their Motion, and become more violent. Therefore it muſt neceſſarily follow, that upon any ſudden Emmiſſion of the Cold, the Pores become more condenc'd, and the Saps and Juices circulates not ſo freely as they did before, and the Juices which feed and nouriſh the Tree, being as it were thus arreſted or ſtop'd in their uſual Motion by the Inclemency of the Weather; it cauſes a Stagnation of the Juices, or at leaſt a much ſlower Circulation than formerly, which occaſions the Tree to languiſh and fade, and if the Stagnation be too violent, then it preſently dies.

The moſt effectual and ſucceſsful Method for raiſing theſe kind of foreign Plants, is to propagate them from Seed.

Firſt, Let it be conſulted what Sort of Soil is proper for them. I would in all Caſes procure a rich Soil, which may yield them a ſufficient Supply of Nouriſhment, with the Addition of as little Heat as poſſible; to which End I would reject all Stoves or Hot-beds rais'd by Dung, if the Plants I propoſe can any ways be produc'd without; becauſe it is not poſſible to keep a conſtant Supply of the like Heat to the ſame Plants, when grown up to Maturity. And if a Richneſs of Soil ſhall be found equivalent to theſe artificial Heats, there may be a much greater Probability of ſupplying the Decay of the one, rather than continuing the Warmth of the other.

BESIDES thoſe Plants which are produc'd chiefly thro' the Richneſs of the Soil, are not liable to be affected by the Intemperance or Inclemency of the Weather, either hot or cold, as we ſee thoſe kept in Hot-Houſes, Stoves, *&c.* are.

THIS I have remark'd particularly, that young Orange Plants, rais'd from Seed, upon Hot-beds, and juſt kept from the Severity of the Weather, till they have been about two Years old, and then tranſplanted into Pots, for Ornaments in Houſes and Windows, have ſtood the ſevereſt Seaſons in an open Room expos'd to the Air, without the Help or Addition of any artificial Heat.

I HAVE likewiſe known others taken at the ſame time, and kept in the like Manner, which have been deſtroy'd in that very Seaſon; but enquiring into the Reaſon, I found it to proceed from this; that the firſt were kept all the *Winter* without watering the ſame, whereby the Root was not chill'd; and the others had been water'd ſeveral times, which was the very thing that occaſion'd their Deſtruction.

If theſe Plants are intended to be kept, and we would endeavour to reconcile them to our Climate, the moſt ready Way to effect our Deſires will be, by ſowing the Seeds not in a Hot-bed; for tho' that throws them up ſooner; yet at the ſame time it makes ſuch an artificial Heat, neceſſary for their future Support; but they ſhould be ſown in as rich a Soil, and alſo as light a one as poſſible, about the Middle of *April*; for then the natural Heat of the Seaſon will cauſe them to riſe, and they ought not to be ſown more than two Inches, or at moſt two Inches and a half deep in the Earth, in this Manner, without the Advantage of any Hot-beds, or additional Heat. I have rais'd theſe Plants, which will ſoon ſhoot up; it will be proper to ſet them on a riſing Ground; becauſe too much Moiſture will deſtroy them, eſpecially at their firſt appearing. And being thus rais'd, and continuing all the Seaſon expos'd to the Weather, they are the leſs affected by the Changeableneſs of the ſame; and if they be taken up about the latter End of *September*, or *October*, and removed into Pots, with the Advantage of freſh Mould, ſuch as they were firſt rais'd in, not too moiſt, and kept in a dry Place, where the Rain comes not upon them, during the *Winter* Seaſon; and in the following Spring planted out again, they will grow more hardy and better reconcil'd to the Climate, and in a few Seaſons be able to bear all Weathers, to which they muſt be innur'd by Degrees; for 'tis not the Coldneſs of the Seaſons that deſtroys them, but the Barks or Rines of theſe Plants, being of a very ſoft and pulpy Nature when young; too much Wet fills up the Pores thereof; and if a Froſt enſues, whilſt the Water is lodg'd there, it congeals and prevents the Sap from Circulating, by which means the Plants are deſtroy'd.

For this reaſon then, it is that theſe Plants ſhould be rais'd, in the manner before deſcrib'd, and not kept to tenderly on the one Hand, nor to much expos'd to the Rains and Froſts on the other, until they have obtain'd a hardineſs and ſtrength, able to bear the Weather, which they will in a ſhort time do; after which they ſhould be planted on the ſide of a riſing Ground, or behind ſome Fence, which may ſecure them from the ſeverity of the Northern Blaſts, as well as to give them the, advantage of the Southern Sun; for being thus planted, the Showers which fall ſometimes violently, will not prejudice the Roots by watering them to much, but will be carry'd of as they fall, by the decent.

Thus with a little Induſtry and Pains, it would be practicable to raiſe Oranges, and Lemons, as we do Peaches and Apricotts, and it would be no unpleaſant ſight to behold; them planted againſt our Garden Walls, in the ſame manner as thoſe Fruits are; which might be eaſily Effected, by managing theſe Plants in the Method before directed; and if to defend them from the ſeverity of the Weather, the Walls againſt which they are planted were a little arch'd, ſo as to hang over the Trees, it would be a very great advantage to them, becauſe theſe Trees require very little Water, and a light and dry Soil.

In the ſame manner may we introduce divers other Sorts of Foreign Trees into our Gardens, as well for Profit as Pleaſure, which is at preſent thought to be Impracticable, for no other reaſon than a want of Experience, and Induſtry, or becauſe an Experiment may not have ſucceeded upon the firſt tryal.

There is another Experiment I have ſeen practiced, which is the raſing Peaches upon ſtanderd Stocks, about eighteen or twenty Foot high, and planting them againſt the Walls of Houſes, theſe have made a very beautiful Appearance, and the Stocks runing up to the height of the ſecond Story, before they were buded; the Peaches then branched out, and ran Arch-wiſe over the Windows, whilſt the body's of the Stocks were cover'd by Vines, which were kept under the Peaches, ſo that the whole Walls have been cover'd in a very beautiful Manner.

The Nectarine may alſo be grafted, or budded, in the ſame Manner, upon the like Stocks, and will make a very beautiful Appearance.

So may the Apricot, but with this Caution, that it muſt not then be ſuffer'd to run to much to Wood, for this Tree being a great Spreader, will over-run its Stock, if it be not kept down carefully, the Conſequence whereof will be, that the Fruit becomes ſmaller, then it would otherways naturally be; and requiring a greater ſupply of Juices, than the Stock can yeild, both will be thereby deſtroy'd.

I have ſeen an other Experiment try'd, of Inoculating the Currant and Gooſeberry Tree, upon ſtander'd Stocks, which being but Young, and not as yet bearing Fruit, I cannot ſay what the Succeſs will be, but believe the Experiment will ſucceed, for they ſeem'd to take very kindly, and ſhot out Branches and Leaves, in great Quantities.

If this Experiment ſucceeds, were the Curran to be grafted upon the red Cherry Stock, and if the Gooſ-berry, be rais'd on the Codling Stock, there muſt conſequently be a very great alteration in the Fruit produc'd therefrom

It was a very juſt Obſervation of *Virgil's*, which he makes in his Second *Georgick*, that the higher any Trees are ſuffer'd to grow, the more they ſpend themſelves in Wood, and produce the leſs Fruit, in Proportion to their Bulk; therefore it would be proper to curb them in their Growth, and not ſuffer them to grow too high, or too large, for thereby ſhall we have their Fruits in greater Quantities, and better taſted.

As true likewiſe is his Aſſertion of thoſe Trees which grow wild, that if they be removed and tranſplanted into Orchards, with good Pruneing and frequent Cultivating, they will looſe their old Diſpoſition, and bear good Fruit, even without Grafting or Inoculating; much more ſo, if they have the ſame Improvement, with the Advantage of being grafted or inoculated.

LA CERDA reduces the artificial Generation of Plants into the following Heads, *viz.* Avultion, Inſoſſion, or burying them in the Earth, Propagation (which is, the bending down the Branches, and ſetting the Twigs or Shoots in the Ground, which is what is practiſed by our Gardiners and Nurſery-Men in raiſing Vines, Mulberries, and by them called Laying, Tranſplanting;

whereby the worſer Sort of Fruits are improv'd and made better, by Slipping, by Conciſion, Inciſion, Inoculating, or Grafting. Of which Method Inoculating and Grafting, tho' they are look'd upon as ſeveral Arts. I have in ſome Parts of this Treatiſe uſed the Term promiſcuouſly, the Method of Inoculating, being but a Part of Grafting; thoſe who hold them for ſeveral Arts, will readily diſtinguiſh in which Senſe they are to apply the Term, the Difference being only betwixt Grafting upon the Head of the Tree, and into the Bark, the latter being a Method invented to avoid the Difficulty of grafting upon the Head, which frequently happen'd in ſuch Sorts of Stocks, whoſe Piths were very ſhort.

Others account but ſix Sorts of artificial Production, and ſeveral reckon no more than five.

Among the Antients, the cuſtom of Infoſſion or burying in the Earth, which is what I have before deſcrib'd, was frequently practiced in the raiſing of Vines particularly; beſides which, they alſo made uſe of theſe other Methods viz. by Inciſſion, or the ordinary manner of Grafting, though this way is now quite out of uſe, the only reaſon it ſhould be ſo, is becauſe it requires a great deal of care to effect it, but if done by a prudent Hand, the Conſequence will be, that the Fruit will be found to be much finer, better, and preferable to any other; another way was by Terebration or Boring through the middle of the Stock, which is not mention'd by *La Cerda*; and this Method as it anſwers the ends of Grafting or Inoculating, ſo it may be applyed to moſt other Fruits as will as Vines, and with equal Succeſs, by drawing the Cions into the Hole made through the Stocks, as has been before deſcrib'd. Alſo another Method which is mention'd by the Lord Viſcount *St. Albans*, in his Natural Hiſtory, and of which I have before given ſeveral Examples, is the parting of two Vines &c. which grew near together, by ſlitting them through the Middle, and binding the contrary parts together.

VIRGIL tells us, that the Apple may be engrafted into the barren Plane-Tree; and that from thence the Fruit ſhall be improv'd, ſo as to be preferable to any other.

THIS Plane-Tree I do not know that it is yet brought into *England*; if it were, it is capable of two Uſes; the firſt for engrafting upon, according to *Virgil*; for it very much improves whatever is inoculated thereon; the ſecond for its pleaſant and delightful Shade. It was eſteem'd by the *Grecians*, and reckon'd amongſt the Delights of the ancient *Romans*. *Pliny* gives us this Character of it. *Who will not wonder*, ſays he, *at that Tree, which for its ſake only, is fetch'd from another World?* And adds, *It was firſt brought thro' the* Ionian-Sea *to* Diomedes *his Iſland, purpoſely to grace his Monument; From thence tranſplanted into* Sicily, *and of chief Eſteem in* Italy; *afterwards tranſfer'd to the* Morini; *and was rated with the tributary Soil, Nations paying Exciſe even for its Shade.*

AND if we will believe *Ælian*, he tells us, the Affection of *Xerxes* was ſo great for this Tree, that ſeeing one of them as he was marching upon an Expedition, at the Head of his Army, he ſuddenly order'd them to halt, and pitch their Tents about it; and continued there a whole Day, without any other Motives to induce him thereunto, than only the Pleaſure and Satisfaction he took in its Shade; and adorn'd the Boughs and Branches thereof with Chains, Bracelets, and Ornaments of Gold; and appointed an Overſeer to attend and look after the ſame.

THIS Tree, tho' it be Steril, yet according to this Account, muſt be very acceptable to the Curious; and if we credit *Ælian* and *Virgil*, has already been a great Traveller, and poſſibly might be induc'd to become naturaliz'd to our Soil, were but ſome ingenious Hand employ'd in the Propogation thereof.

THE Olives as well as the Almonds are frequent in many Parts of *France*; and as they are both hardy Trees, I do not apprehend there would be any Difficulty more than is common to others, to raiſe them in this Country. The Almonds I have ſeen growing already, and they bear Fruit here to Perfection; tho' I know but two of thoſe Trees, and one of the Tamarines in the common Gardens about *London*.

OF the Olives *Virgil* tells us of but three Sorts, *viz.* the *Orchits*, ſo called from their Roundneſs; the *Radies*, ſo called from their Length, according to *Iſidore*, when he ſays, *Radidæ pro eo quod oblongæ ſunt in modum Radiorum*; and the *Fauſian*, which hath its Name, a *Pariendo*, according to *Cato Servius* and *Iſidore*, from to ſtamp or pound, becauſe the laſt Sort are not fit to be eaten,

eaten; and are therefore ſtamp'd or bruis'd to make Oil of.

However *Columella* reckons up no leſs then ten ſeveral Sorts; and *Macrobius* numbers up ſeventeen, were the Experiment of planting them attempted here, I am perſuaded the ſame would anſwer, from what I have ſeen of this Tree in foreign Parts, where the Advantage of Climate has been of ſo little Difference, that I cannot be perſuaded to think it has been any help at all to it.

HOMER, in his Ninth *Odyſſes*, celebrates *Alcinous* as a great Encourager and Promoter of the Improvement of Fruits, and particularly the Apples, ſeveral Sorts of new Productions being owing to his Induſtry.

The *Cruſtuminian* and *Syrian* Pears were famous in the Days of *Virgil*. *Columella* reckons up Seventeen ſeveral Sorts; *Macrobius* Thirty-one; and *Pliny* no leſs than Thirty-five. How many Improvements may have been ſince their Days diſcover'd, I will not ſay, but am certain an ingenious Perſon may, by obſerving what has been before directed, produce in a ſhort time as many other Sorts, as there are at preſent.

It may not be amiſs to ſay ſomething here, relating to the various Sorts of Soil, and how far each is applicable to ſeveral Species of Fruits; there being ſome Ground which will agree very well with one Sort, but are very prejudicial to others; and alſo lay down ſome neceſſary Inſtructions for diſcovering the ſeveral Qualities and Properties of the Earth in divers Places; for want of a true Underſtanding, whereof many Attempts of Improvement

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are fruſtrated and render'd ineffectual to the Diſcouragement of the Ingenious, who not obſerving or knowing the Qualities of the Ground, are induc'd to believe many things impracticable, becauſe they do not ſucceed, when the Obſtruction is owing to the want of proper Soil, Manure, or Culture.

VIRGIL, in his Firſt *Georgick*, diſtinguiſhes all Grounds into four Sorts or Kinds, which Diſtinction *Servius* tells us, he took from *Varro*, who ſays, all Grounds are diſtinguiſhed into four Sorts, *i. e. Arable* for Grain and Corn; *Sative* for Plants and Trees; *Paſture* for Grazing; and Herbage; and *Floral* for Gardening and Bees; each of which may again be ſubdivided into ſeveral other Kinds, as hot and cold, moiſt and dry, fruitful and barren, heavy and light, *&c.*

BUT as my Intention is to treat of that Part of Agriculture only, which may ſerve to lluſtrate the preſent Subject, I ſhall confine myſelf thereunto.

IN order to which, firſt ſhould be conſulted the Nature of the Plants we intend to cultivate; for tho' they are of ſuch a Species as may grow in any Soil; yet 'tis an infallible Rule, that they will thrive much better in one particular Soil than in another.

THE Yew-Tree particularly delights in a heavy, cold, moiſt, ſhadey Soil, becauſe its Nature is ſuch, that it is beſt nouriſhed by noxious and cold Juices, which occaſions its Toughneſs and Solidneſs.

HENCE it is ſaid to be an Enemy to moſt other Trees and Plants, becauſe of its delighting in Soils hardly proper for any other Trees, Plants, or Herbage. Another Reaſon is, becauſe of the Cloſeneſs and Continuity of its Branches, by which it not only obſcures the Sun-Beams, but even intercepts the deſcending Dews and Rains, and prevents their falling upon any thing below it; ſo that by the Coldneſs of the Soil on the one Hand, and the want of the Sun's benign Influence on the other, whatever is planted near it languiſhes and decays.

THE Apple, Pear, and moſt Sorts of ſtander'd Fruits delight in a warm and light Soil, where with a moderate Degree of Moiſture they will thrive extraordinary well. If theſe are planted in a heavy, cold Soil they will neither bear ſo well, nor ſhall the Fruit be ſo large, ſo well taſted, ſo many in Number, nor ſo ſoon ripe, as otherwiſe they would.

THERE are indeed divers who plant them in moiſt Grounds, near the Sides of Ditches, Rivers, &c. and if the Soil be light and mellow they will bear conſiderably, and very good Fruit, of the largeſt Size, and alſo pleaſant, but fit only for preſent ſpending, for it will not abide the *Winter*, more eſpecially in ſofter Fruits, they being more moiſt and watery than others which grow in higher Grounds; however for *Summer* Fruit, that Objection will be of the leſs Force, becauſe in that Seaſon moſt Fruit is prefer'd for its Coolneſs.

The Quince and Medler will indeed thrive beſt in low, moiſt Grounds, even, where their Roots lye altogether in the Water; for both theſe Trees delighting in Moiſture, they imbibe the ſame, and their Fruits grow much larger than if they ſtood in a dryer Soil; nor does it render them more unpleaſant to the Taſt; on the Contrary, they grow larger, pleaſanter, are ſooner ripe, and produc'd in greater Quantities, than if they grew in other Grounds.

There are very few Fruit Trees, eſpecially in *Holland*, but what are planted on the very Brinks and Edges of their Ditches and Canals, where in the *Winter* time eſpecially, the Grounds lye all under Water; notwithſtanding which, their Fruits are generally very fair, large, and beautiful to look upon. The Reaſon is, that the Soil being only a Compound of Sand and ſlimy Dirt (fiſh'd from the Bottoms of their Canals, which they are yearly oblig'd to do, and ſpread over the Surface of their Lands, to keep them above Water) is very light, and by the free Emiſſion of the Air and Sun-Beams, conſequently hot and mellow.

This Soil being thus thrown up annually, is like a yearly Manuring of the ſame, and being conſequently fat and mellow, is heated by the Mixture of Sand taken up with it, which occaſions the Fruit to ripen ſooner, and grow larger, as in greater Quantities, than it would do in dryer Grounds, where it had not the Advantage of being ſo frequently manured and cultivated.

The Quince and Medler particularly grow much larger there than here, from the Reaſons laſt before mention'd. And thoſe Perſons who will take Example by their Experience, will ſoon find the Advantage thereof.

The Cherries naturally love a hot Soil, not too dry, but moderately moiſt; nay, they will thrive much better in a moiſter Soil, ſo that the ſame be of a light, mellow Nature, than they will in a dry one, as frequent Experience ſhews; and the Fruit ſhall be much larger, deeper colour'd, and better taſted than otherwiſe it would.

A Heavy and moiſt Soil, or a cold and clayey one, is by no Means proper; nor is a gravelly, loomy Soil; for that is not only too cold, but likewiſe buds and pinches the Roots too much.

A Warm and moiſt Soil, or a light, dry, gravelly, and chalky, is the moſt proper for this Tree.

In *France* they are frequently planted upon hilly Grounds; but then the Soil is generally, light, and ſandy, or chalky, which imbibes the Rain when it falls, and thereby repleniſhes and feeds them with a ſufficient Supply of Water.

And this Fruit, as well in *France* as in *Holland*, tho' rais'd upon different Soils, the one being hot and dry, the other moiſt, yet each of them are mellow and light, the one naturally ſo, the other made ſo, by its ready imbibing and drinking up the Moiſture, is in both Places generally fairer and larger than with us.

As to Vines likewiſe, they may be rais'd upon divers Soil. I have ſufficiently deſcrib'd thoſe of *Burgundy* and *Champaign*, with the Method of Tillage and Culture; I ſhall therefore here mention ſeveral other Sorts, which may be applicable to the ſame Uſes.

A Light, dry, Soil, either gravelly, ſtoney, or chalky, is moſt proper; for as the Vines both love and require a good deal of Moiſture, ſo in theſe Soils, when ever the Rains or Dews fall, they are preſently drunk up and ſwallow'd by the Lightneſs of the Soil, and the Openeſs of the Earth, and the Particles thereof fatten and mellow the ſame, to the better nouriſhing of the Plants.

A Light, mellow Soil, if it be any thing ſandy, is always warm, and is therefore proper for Vines, where the ſame are ſhelter'd by any Wall, or any proper Fence; and the Grapes that grow thereon will be generally more large than the other, as ſoon ripe, and as pleaſant to the Taſt, but will not continue altogether ſo long upon the Vines as the other, being of a more watery Nature than thoſe are.

A Fat and mellow Soil, if it be light, will produce very good Vines, but they will be more proper for the Tooth than for the Preſs; for the Grapes will be very large and fair, and likewiſe pleaſant to the Palate.

A Cold, heavy Soil is in no wiſe proper; neither is a a clayey one, nor a moiſt, heavy, gravelly one; for in any of theſe Grounds the Vines will never come to any Perfection.

The Damſin delights in a light, mellow Ground; in a heavy, gravelly, loomy, or clayey Soil, it will not thrive; neither will it in too dry a one, but the Fruit there, will grow ſmall and full of Gum, and be harſh and unſpleaſant to the Taſt.

Peaches, Apricots, Nectarines, &c. love a light, warm, mellow Soil, in which they thrive beſt. A clayey Ground, loomy, heavy, cold, gravelly Soil, will not nouriſh them at all.

Horse Dung is not proper by any Means to be apply'd to theſe Trees; for it gives an ill Flavour to the Fruit, ſcorches the Roots, and breeds Vermine, which will deſtroy them.

If your Soil is not light enough, without the Addition of any artifiicial Compoſt; the beſt way to mend the ſame will be this: Dig away the Earth in the Places where you would plant your Trees to a Breadth neceſſary, and about three Foot in Depth; and if you have any old Cow-Paſtures adjoining, let the Surface of the Earth be pared therefrom, for about ſix or eight Inches in Thickneſs; with this Mould fill up all the Places where you intend to plant your Trees, and ſet your Stocks carefully in the midſt thereof; if they be ſet againſt a Wall, let not the Roots of your Stocks be planted cloſe to the Wall, but at about the Diſtance of eight or nine Inches, or rather more therefrom, inclining the Head of your Plant to the Wall, but not ſo near as to touch the ſame, yet enough to faſten the young Shoots thereto, without bruiſing or ſtraining the ſame.

In this Order let them grow, and uſe the proper Method of pruning and trimming the ſame at their convenient Seaſons; and if amongſt the Earth you bring from the Cow-Paſtures to fill up the Places where you intend to plant your Fruit Trees, you intermix the Leaves, Rines, and ſoft Barks, or Pillings of other Fruit Trees, it will improve and lighten the Soil yet more.

So alſo will Sheeps Dung, Hogs Dung, and the Lees of Wine, or Blood of Beaſts; for by their Acrimony they wonderfully help and invigorate all Trees.

Gooseberries, and Currants alſo, will grow much better, larger, fairer, and pleaſanter in Taſt, for being planted in a light, mellow Soil; but as theſe take no deep Root, they will thrive well enough upon a gravelly Bottom, but a clayey Ground is not good for them, but cauſes the Fruit to dwindle, and grow leſs. Theſe love Water, and thrive extraordinary well if they be planted on the Edges of Ditches, Canals, and Ponds, even if their Roots lye under Water.

A Light, ſandy Soil is proper for the Almond, the Tamerine, and the Olive; and if it encline a little to the gravelly, or chalkey, ſo it be not too moiſt, will not be amiſs.

The Citron-Tree, according to *Virgil*, *Pliny*, and *Solinus*, was in their Times only growing in *Media*; but was afterwatds, by the Dilligence of *Palladius*, brought into *Italy*; and from thence ſince tranſplanted into other Parts. It covets a very light and dry Soil, and requires but a little Water.

A Cold, heavy Soil is eaſily deſtinguiſh'd by the Weight.

A Blackish, ſlimey, clayey Soil is pernicious and deſtructive to almoſt every thing.

A Mellow, rich Soil is readily diſtinguiſhed; for if it be moulded in the Hand, it will not crumble, but ſtick to the Finger, like Pitch or Clay.

When you have made choiſe of your Soil, plant not your Trees promiſcuouſly without any Order, but obſerve a regular Diſtance in the ſame, which your own Diſcretion will lead you to vary according to the Nature of the Fruits you intend to plant.

If you deſire a Plantation of Fruit Trees, all of one Species, their Diſtance muſt be greater than otherwiſe they would need to be; and for this Reaſon, that they all require the like Nouriſhment; and if they be too cloſe, the Ground will not yield them a ſufficient Quantity for their Support, but they will bear much leſs in Proportion than they would otherwiſe do.

It would be the propereſt to intermix Trees of different Species; for they drawing ſeveral Juices from the Earth, would not deprive each other by their Neighbourhood of that Ailment, which is proper for their Subſiſtance.

The frequent digging about the Roots of all Fruit Trees is an Advantage to the Trees in general,

neral, as it admits the freſh Air, by opening the Pores of the Earth, which otherwiſe by long lying will be ſhut, and keep out the kind Influence of the Sun-Beams, and repel the Dews and Vapours which fall upon the Ground in the Night-time, and thereby prevent the Trees from receiving that Nouriſhment therefrom, which they otherwiſe would.

VIRGIL directs us to lay Shells and Lime Stones about the Roots of the Trees, thoſe which are new ſet eſpecially; the Reaſons he gives for it is that it prevents the deſcending Rains and Dews from being exhaled by the Heat of the Sun, and the Ground thereby exhauſted of that Moiſture proper for the Nouriſhment of the Plant.

I SHALL conclude what I have before ſaid, with ſome Direction for helping and improving of Lands, by quoting ſeveral Remedies for the ſame, taken from *Francis*, Lord Viſcount St. *Albans*, in his *Natural Hiſtory*; where ſpeaking of Experiments in Conſort, touching all manner of Compoſts and Helps of Ground, he ſaith.

" THE firſt and moſt ordinary Help in *Stercoration*,
" is that of *Sheeps Dung*, which is one of the beſt;
" and next the *Dung* of *Kine*; and thirdly, that of
" *Horſes*, which is held to be ſome-what too hot,
" unleſs it be mingled. That of *Pigeons* for a
" Garden, as a ſmall Quantity of Ground excelleth;
" the *ordering* of *Dung* is, if the *Ground* be *Arable*
" to ſpread it immediately before the *Ploughing*
" and *Sowing*; and ſo to *plough* it in: for if you
" ſpread it long before, the *Sun* will draw out
" much of the *Fatneſs* of the *Dung*; if the *Ground*
" be *Grazing Ground*, to ſpread it ſome-what late,

“ towards *Winter*, that the *Sun* may have the leſs Power to dry it up.

“ THE ſecond *Kind* of *Compoſt*, is, the *ſpreading* of divers *Kinds* of *Earth*, as *Marle*, *Chalk*, *Sea-Sand*, *Earth* upon *Earth*, *Pond-Earth*, and the *Mixtures* of them. *Marle* is thought to be the beſt; as having moſt *Fatneſs*; and not heating the *Ground* too much. The next is *Sea-Sand*, which no doubt obtaineth a ſpecial Virtue by the *Salt*; for *Salt* is the firſt Rudiment of Life. *Chalk* over heateth the *Ground* a little; and therefore is beſt upon *cold Clay-Grounds*, or *Moiſt-Grounds*. But I heard a great *Husband* ſay, that it was a common Error to think that *Chalk* helpeth *Arable Grounds*, but helpeth not *Grazing Grounds*; whereas, indeed, it helpeth *Graſs* as well as *Corn*, but that which breedeth the Error is, becauſe after the *chalking* of the *Ground*, they wear it out with many *Crops* without *Reſt*; and then, indeed, afterwards it will bear little *Graſs*, becauſe the *Ground* is tyred out. It were good to try the laying of *Chalk* upon *Arable Grounds* a little while before *Ploughing*; and to *plough* it in as they do *Dung*; but then it muſt be tryable firſt by *Rain*, or *Lying*. As for *Earth*, it *compaſſeth* itſelf; for I knew a *great Garden* that had a *Field* (in a manner) powered upon it; and it did bear *Fruit* excellently the firſt Year of the Planting; for the *Surface* of the *Earth* is ever the fruitfulleſt. And *Earth* ſo prepar'd hath a double *Surface*. But it is true, as I can conceive, that ſuch *Earth* as hath *Salt-Petre* bred in it, if you can procure it without too much Charge, doth excel. The way to haſten the *breeding* of *Salt-Petre*, is to ſorbid the *Sun*, and the Growth of *Vegetables*;

“ and therefore if you make a large *Hovell*, thached over ſome Quantity of *Ground*; nay, if you do but pluck the *Ground* over, it will breed *Salt-Petre*. As for the *Pond-Earth*, or *River-Earth*, it is a very good *Compoſt*, eſpecially if the *Pond* has been long uncleanſed, and ſo the *Water* be not too hungry: And I judge it will be yet better, if there be ſome *Mixture* of *Chalk*.

“ THE third *Help* of *Ground* is by ſome other *Subſtances* that have a Virtue to make *Ground* fertile; though they be not merely *Earth*, wherein *Aſhes* excel; in ſo much as the Countries about *Ætna* and *Veſuvius* have a kind of Amends made them from the Miſchief the Eruptions, many times, do, by the exceeding *Fruitfulneſs* of the *Soil*, cauſed by the *Aſhes* ſcatter'd about. *Soot* alſo, tho' thin ſpread in a *Field* or *Garden*, is tryed to be a very good *Compoſt*. For *Salt* it is too coſtly; but is tryed, that mingled with *Seed-Corn*, and ſown together, it doth good. And I am of Opinion, that *Chalk* in powder, mingled with *Seed-Corn*, would do good; perhaps as much as *chalking* the *Gound* all over.

“ THE fourth *Help* of *Ground*, is the ſuffering of *Vegetable to die into the Ground*, and ſo to fatten it; as the *Stubble* of *Corn*, eſpecially *Peaſe*. *Brakes* caſt upon the *Ground* in the Beginning of *Winter*, will make it very fruitful. It were good alſo to try whether *Leaves* of *Trees* ſwept together, with ſome *Chalk* and *Dung* mixed, to give them more Heat, would not make a good *Compoſt*. For there is nothing loſt, ſo much as *Leaves* of *Trees*; and as they lye

“ ſcatter'd, and without Mixture, they rather
“ make the *Ground* ſower than otherwiſe.

“ The fifth *Help* of *Ground* is *Heat* and *Warmth*
“ It hath been antiently practiſed to burn *Heath*
“ and *Ling*, and *Sedge*, with the Vantage of the
“ *Wind*, upon the *Ground.* We ſee that *Warmth* of
“ *Walls* and *Encloſures* mendeth *Ground.* We ſee
“ alſo that *lying open* to the *South* mendeth *Ground.*
“ We ſee again, that the *Foldings* of *Sheep* help
“ *Ground*; as well by their *Warmth*, as by their
“ *Compoſt.* And it may be doubted, whether the
“ *covering* of the *Ground* with *Brakes* in the Be-
“ ginning of the *Winter* (whereof we ſpeak in the
“ laſt *Experiment*) helpeth it not, by reaſon of the
“ *Warmth.* Nay, ſome very good *Husbands* do
“ ſuſpect, that the *gathering* up of *Flints* in *Thiſly*
“ *Ground*, and laying them on *Heaps* (which is
“ much uſed) is no good *Husbandry*; for that
“ they would keep the *Ground* warm.

“ The ſixth *Help* of *Ground* is, by *Watering*
“ and *Irrigation*, which is in two Manners; the
“ one by *letting* in, and *ſhutting* out *Waters*, at
“ ſeaſonable Times: For *Water*, at ſome Seaſons,
“ and with reaſonable ſtay, doth good; but at
“ ſome other Seaſons, and with too long ſtay, it
“ doth hurt. And this ſerveth only for *Mea-*
“ *dows*, which are along ſome *Rivers.* The other
“ Way is to bring *Water* from *hanging Grounds*,
“ where there are *Springs*, into the *lower Grounds*,
“ carrying it in ſome long *Furrows*: And from
“ thoſe *Furrows*, drawing it traverſe, to ſpread
“ the *Water.* And this maketh an excellent Im-
“ provement both for *Corn* and *Graſs.* It is the
“ richer if thoſe *hanging Grounds* be fruitful, be-
“ cauſe it waſheth off ſome of the Fatneſs of the

“ *Earth.* But howſoever it profiteth much. Generally
“ where there are great Overflows in *Fens*,
“ or the like, the drowing them in the *Winter*;
“ maketh the *Summer* following more fruitful:
“ The Cauſe may be, for that it keepeth the
“ *Ground* warm, and nouriſheth it: But the *Fen-*
“ *Men* hold, that the *Sewers*, muſt be kept ſo,
“ as the *Water* may not ſtay too long in the
“ *Spring*, till the *Weeds* and *Sedge* be grown up;
“ For then the *Ground* will be like a Wood, which
“ keepeth out the Sun; and ſo continueth the
“ Wet, whereby it will never graze, to purpoſe,
“ that Year.

FINIS.

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